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

July 10, 2014

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

RE: Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 02, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

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
Utah Certification #: KS00021
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172794001	**316-347**	Water	07/01/14 09:34	07/02/14 02:00
60172794002	**TRIP BLANK**	Water	07/01/14 09:34	07/02/14 02:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172794001	**316-347**	EPA 200.7	JGP	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172794002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Date: July 10, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Sample: 316-347 **Lab ID: 60172794001** Collected: 07/01/14 09:34 Received: 07/02/14 02:00 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	**1880**	ug/L	750	2	07/03/14 12:05	07/07/14 16:14	7429-90-5	
Antimony	**143**	ug/L	100	2	07/03/14 12:05	07/07/14 16:14	7440-36-0	
Arsenic	**1160**	ug/L	50.0	1	07/03/14 12:05	07/07/14 16:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/03/14 12:05	07/07/14 16:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/03/14 12:05	07/07/14 16:10	7440-43-9	
Chromium	**216**	ug/L	25.0	1	07/03/14 12:05	07/07/14 16:10	7440-47-3	
Cobalt	**29.3**	ug/L	25.0	1	07/03/14 12:05	07/07/14 16:10	7440-48-4	
Copper	ND	ug/L	50.0	1	07/03/14 12:05	07/07/14 16:10	7440-50-8	
Iron	**413000**	ug/L	250	1	07/03/14 12:05	07/07/14 16:10	7439-89-6	
Lead	**51.8**	ug/L	25.0	1	07/03/14 12:05	07/07/14 16:10	7439-92-1	
Nickel	**108**	ug/L	25.0	1	07/03/14 12:05	07/07/14 16:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/03/14 12:05	07/07/14 16:10	7782-49-2	
Silver	ND	ug/L	35.0	1	07/03/14 12:05	07/07/14 16:10	7440-22-4	
Thallium	ND	ug/L	100	1	07/03/14 12:05	07/07/14 16:10	7440-28-0	
Zinc	**6390**	ug/L	500	2	07/03/14 12:05	07/07/14 16:14	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2000**	ug/L	750	2	07/09/14 10:00	07/09/14 14:40	7429-90-5	D9
Antimony, Dissolved	**60.6**	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:37	7440-36-0	
Arsenic, Dissolved	**958**	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:37	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 10:00	07/09/14 14:37	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:37	7440-43-9	
Chromium, Dissolved	**191**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:37	7440-47-3	
Cobalt, Dissolved	**29.7**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:37	7440-48-4	D9
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:37	7440-50-8	
Iron, Dissolved	**368000**	ug/L	250	1	07/09/14 10:00	07/09/14 14:37	7439-89-6	M1
Lead, Dissolved	ND	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:37	7439-92-1	
Nickel, Dissolved	**97.1**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:37	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 10:00	07/09/14 14:37	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 10:00	07/09/14 14:37	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 10:00	07/09/14 14:37	7440-28-0	
Zinc, Dissolved	**5260**	ug/L	500	2	07/09/14 10:00	07/09/14 14:40	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:01	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	07/07/14 11:15	07/07/14 14:02	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/02/14 00:00	07/03/14 15:03	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/02/14 00:00	07/03/14 15:03	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6470**	ug/L	4000	2	07/02/14 00:00	07/03/14 15:03		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Sample: 316-347 **Lab ID: 60172794001** Collected: 07/01/14 09:34 Received: 07/02/14 02:00 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	07/02/14 00:00	07/03/14 15:03	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	87-86-5	
Phenol	**9490**	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/02/14 00:00	07/03/14 15:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	91	%	33-120	2	07/02/14 00:00	07/03/14 15:03	4165-60-0	
2-Fluorobiphenyl (S)	87	%	39-120	2	07/02/14 00:00	07/03/14 15:03	321-60-8	
Terphenyl-d14 (S)	92	%	45-120	2	07/02/14 00:00	07/03/14 15:03	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/02/14 00:00	07/03/14 15:03	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	07/02/14 00:00	07/03/14 15:03	367-12-4	
2,4,6-Tribromophenol (S)	97	%	39-120	2	07/02/14 00:00	07/03/14 15:03	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**74400**	ug/L	2000	200		07/08/14 05:23	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 05:23	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 05:23	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 05:23	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 05:23	74-83-9	
2-Butanone (MEK)	**31800**	ug/L	2000	200		07/08/14 05:23	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 05:23	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 05:23	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 05:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 05:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 05:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 05:23	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 05:23	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 05:23	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 05:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 05:23	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 05:23	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 05:23	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 05:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 05:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 05:23	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 05:23	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 05:23	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 05:23	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/08/14 05:23	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		07/08/14 05:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		07/08/14 05:23	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 05:23		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**671**	mg/L	5.0	1		07/07/14 15:29		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Sample: 316-347 **Lab ID: 60172794001** Collected: 07/01/14 09:34 Received: 07/02/14 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.8**	mg/L	5.0	1		07/07/14 15:43		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4060**	mg/L	5.0	1		07/02/14 13:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29900**	mg/L	2.0	1	07/02/14 11:51	07/07/14 13:48		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**553**	mg/L	20.0	200		07/02/14 14:39	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51100**	mg/L	5000	500		07/08/14 08:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Sample: TRIP BLANK **Lab ID: 60172794002** Collected: 07/01/14 09:34 Received: 07/02/14 02:00 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		07/08/14 03:34	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 03:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 03:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 03:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 03:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 03:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 03:34	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 03:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 03:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 03:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 03:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 03:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 03:34	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 03:34	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 03:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 03:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 03:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 03:34	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 03:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 03:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 03:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 03:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 03:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 03:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/08/14 03:34	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		07/08/14 03:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		07/08/14 03:34	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 03:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172794001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: MERP/8557
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172794001

METHOD BLANK: 1406624 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/07/14 13:56	

LABORATORY CONTROL SAMPLE: 1406625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406626 1406627

Parameter	Units	60172794001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	92.4	85.5	62	57	70-130	8	20	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: MPRP/27907
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172794001

METHOD BLANK: 1405583
Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/07/14 15:57	
Antimony	ug/L	ND	10.0	07/07/14 15:57	
Arsenic	ug/L	ND	10.0	07/07/14 15:57	
Beryllium	ug/L	ND	1.0	07/07/14 15:57	
Cadmium	ug/L	ND	5.0	07/07/14 15:57	
Chromium	ug/L	ND	5.0	07/07/14 15:57	
Cobalt	ug/L	ND	5.0	07/07/14 15:57	
Copper	ug/L	ND	10.0	07/07/14 15:57	
Iron	ug/L	ND	50.0	07/07/14 15:57	
Lead	ug/L	ND	5.0	07/07/14 15:57	
Nickel	ug/L	ND	5.0	07/07/14 15:57	
Selenium	ug/L	ND	15.0	07/07/14 15:57	
Silver	ug/L	ND	7.0	07/07/14 15:57	
Thallium	ug/L	ND	20.0	07/07/14 15:57	
Zinc	ug/L	ND	50.0	07/07/14 15:57	

LABORATORY CONTROL SAMPLE: 1405584

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	996	100	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	9900	99	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	997	100	85-115	
Silver	ug/L	500	500	100	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	989	99	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1405585 1405586

Parameter	Units	60172794001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	1880	50000	50000	53100	52500	102	101	70-130	1	8	
Antimony	ug/L	143	5000	5000	5440	5350	106	104	70-130	2	7	
Arsenic	ug/L	1160	5000	5000	6600	6590	109	109	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4890	4920	98	98	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5370	5360	107	107	70-130	0	10	
Chromium	ug/L	216	5000	5000	5070	5080	97	97	70-130	0	10	
Cobalt	ug/L	29.3	5000	5000	4960	4960	99	99	70-130	0	6	
Copper	ug/L	ND	5000	5000	5330	5320	106	106	70-130	0	11	
Iron	ug/L	413000	50000	50000	454000	453000	81	80	70-130	0	10	
Lead	ug/L	51.8	5000	5000	4670	4680	92	92	70-130	0	10	
Nickel	ug/L	108	5000	5000	4960	4970	97	97	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5960	5980	118	118	70-130	0	10	
Silver	ug/L	ND	2500	2500	2720	2710	109	108	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4410	4420	88	88	70-130	0	6	
Zinc	ug/L	6390	5000	5000	10900	10800	91	89	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: MPRP/27959
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172794001

METHOD BLANK: 1407699 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/09/14 14:29	
Antimony, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Arsenic, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Beryllium, Dissolved	ug/L	ND	1.0	07/09/14 14:29	
Cadmium, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Chromium, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Cobalt, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Copper, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Iron, Dissolved	ug/L	ND	50.0	07/09/14 14:29	
Lead, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Nickel, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Selenium, Dissolved	ug/L	ND	15.0	07/09/14 14:29	
Silver, Dissolved	ug/L	ND	7.0	07/09/14 14:29	
Thallium, Dissolved	ug/L	ND	20.0	07/09/14 14:29	
Zinc, Dissolved	ug/L	ND	50.0	07/09/14 14:29	

LABORATORY CONTROL SAMPLE: 1407700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	917	92	85-115	
Beryllium, Dissolved	ug/L	1000	1050	105	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1100	110	85-115	
Cobalt, Dissolved	ug/L	1000	991	99	85-115	
Copper, Dissolved	ug/L	1000	1070	107	85-115	
Iron, Dissolved	ug/L	10000	9930	99	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	537	107	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	968	97	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407701 1407702

Parameter	Units	60172794001 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	2000	50000	50000	54400	54000	105	104	70-130	1	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5390	5320	107	105	70-130	1	7	
Arsenic, Dissolved	ug/L	958	5000	5000	6420	6260	109	106	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4970	5020	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5480	5340	109	107	70-130	2	10	
Chromium, Dissolved	ug/L	191	5000	5000	5500	5400	106	104	70-130	2	10	
Cobalt, Dissolved	ug/L	29.7	5000	5000	4770	4700	95	93	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5720	5660	114	113	70-130	1	11	
Iron, Dissolved	ug/L	368000	50000	50000	458000	431000	179	126	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4620	4560	92	91	70-130	1	10	
Nickel, Dissolved	ug/L	97.1	5000	5000	4990	4920	98	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	5920	120	118	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2890	2860	115	114	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4320	4280	86	86	70-130	1	6	
Zinc, Dissolved	ug/L	5260	5000	5000	10300	10000	101	95	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: MSV/62855
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60172794001, 60172794002

METHOD BLANK: 1406693
Matrix: Water
Associated Lab Samples: 60172794001, 60172794002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: OEXT/44932
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172794001

METHOD BLANK: 1404630
Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/03/14 12:18	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/03/14 12:18	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/03/14 12:18	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/03/14 12:18	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/03/14 12:18	
Hexachloroethane	ug/L	ND	5.0	07/03/14 12:18	
Naphthalene	ug/L	ND	5.0	07/03/14 12:18	
Nitrobenzene	ug/L	ND	5.0	07/03/14 12:18	
Pentachlorophenol	ug/L	ND	5.0	07/03/14 12:18	
Phenol	ug/L	ND	5.0	07/03/14 12:18	
2,4,6-Tribromophenol (S)	%	78	39-120	07/03/14 12:18	
2-Fluorobiphenyl (S)	%	82	39-120	07/03/14 12:18	
2-Fluorophenol (S)	%	43	17-120	07/03/14 12:18	
Nitrobenzene-d5 (S)	%	83	33-120	07/03/14 12:18	
Phenol-d6 (S)	%	28	11-120	07/03/14 12:18	
Terphenyl-d14 (S)	%	88	45-120	07/03/14 12:18	

LABORATORY CONTROL SAMPLE: 1404631

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.8	76	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.8	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.0	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	39.3	79	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.5	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.9	66	24-120	
Hexachloroethane	ug/L	50	34.2	68	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	13.9	28	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

MATRIX SPIKE SAMPLE: 1404632

Parameter	Units	60172477001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3310	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4090	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3760	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6410	5000	9480	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3240J	65	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5440	54	11-120	
Hexachloroethane	ug/L	ND	5000	3000	60	40-113	
Naphthalene	ug/L	ND	5000	3940	67	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	9200	5000	11100	38	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				121	33-120	S0
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WET/48884 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172794001

METHOD BLANK: 1406738 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/07/14 15:26	

LABORATORY CONTROL SAMPLE: 1406739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.0	85	78-114	

MATRIX SPIKE SAMPLE: 1406740

Parameter	Units	60172547002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43	33.2	75	78-114	M1

SAMPLE DUPLICATE: 1406741

Parameter	Units	60172547003 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WET/48885
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172794001

METHOD BLANK: 1406742 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/07/14 15:43	

LABORATORY CONTROL SAMPLE: 1406743

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.8	119	64-132	

MATRIX SPIKE SAMPLE: 1406744

Parameter	Units	60172547002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.5	10.1	42	64-132	M1

SAMPLE DUPLICATE: 1406745

Parameter	Units	60172547003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WET/48825
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172794001

METHOD BLANK: 1404937
Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/02/14 13:36	

SAMPLE DUPLICATE: 1404938

Parameter	Units	60172746001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	195	195	0	10	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172794001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WET/48821 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172794001

METHOD BLANK: 1404794 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/07/14 12:55	

LABORATORY CONTROL SAMPLE: 1404795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	209	106	85-115	

SAMPLE DUPLICATE: 1404796

Parameter	Units	60172754004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	279	220	23	17	D6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WETA/30090 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172794001

METHOD BLANK: 1404747 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/02/14 14:17	

LABORATORY CONTROL SAMPLE: 1404748

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1404749

Parameter	Units	60172601003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	98	90-110	

MATRIX SPIKE SAMPLE: 1404750

Parameter	Units	60172644002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.20	2	1.8	82	90-110	M1

SAMPLE DUPLICATE: 1404751

Parameter	Units	60172709001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.28	0.28	1	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

QC Batch: WETA/30126
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60172794001

METHOD BLANK: 1406431 Matrix: Water
Associated Lab Samples: 60172794001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/08/14 08:42	

LABORATORY CONTROL SAMPLE: 1406432

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.7	103	90-110	

MATRIX SPIKE SAMPLE: 1406433

Parameter	Units	60172732001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49.8	50	96.2	93	90-110	

MATRIX SPIKE SAMPLE: 1406435

Parameter	Units	60172775001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5080	2500	7170	83	90-110	M1

SAMPLE DUPLICATE: 1406434

Parameter	Units	60172267002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	30.3	31.9	5	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-347
Pace Project No.: 60172794

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172794001	**316-347**	EPA 200.7	MPRP/27907	EPA 200.7	ICP/21104
60172794001	**316-347**	EPA 200.7	MPRP/27959	EPA 200.7	ICP/21141
60172794001	**316-347**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60172794001	**316-347**	EPA 245.1	MERP/8557	EPA 245.1	MERC/8512
60172794001	**316-347**	EPA 625	OEXT/44932	EPA 625	MSSV/14397
60172794001	**316-347**	EPA 624 Low	MSV/62855		
60172794002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60172794001	**316-347**	EPA 1664A	WET/48884		
60172794001	**316-347**	EPA 1664A	WET/48885		
60172794001	**316-347**	SM 2540D	WET/48825		
60172794001	**316-347**	SM 4500-H+B	WET/48861		
60172794001	**316-347**	SM 5210B	WET/48821	SM 5210B	WET/48878
60172794001	**316-347**	EPA 350.1	WETA/30090		
60172794001	**316-347**	EPA 410.4	WETA/30126		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60172794

60172794

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 8.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 7/21/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1. sample did not get cold
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. enough and most of the ice
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3. melted.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD 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: NT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5mL of HNO3 to BP3N. pH 6.0/4.0 Added 2.0mL of H2SO4 to BP3S. pH 4.5/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed pv / Lot # of added preservative 12513 12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cover		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: Temp Noted for Historical Purposes

Project Manager Review: _____ Date: 7/22/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	State / Location
	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60172794
1	316-347 2AG4U 1BP3U 3AG3S	OT	G	7/1/14	0934	—	—		~~17~~ 15	10	4	1	0	1B	P35	1-5			X	X	X	X	X	X	X	X	X	X	X	1B	P3N	4-0 2BP2U 5DG4U 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: 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	7-1-14	2:20PM	[signature]	7/1/14	2:20				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/2/14	0200	8.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/1/14

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

July 11, 2014

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

RE: Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

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
Utah Certification #: KS00021
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172910001	**316-348**	Water	07/02/14 11:00	07/03/14 00:55
60172910002	**TRIP BLANK**	Water	07/02/14 11:00	07/03/14 00:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172910001	**316-348**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	TDS	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172910002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Sample: 316-348 **Lab ID: 60172910001** Collected: 07/02/14 11:00 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5270**	ug/L	750	2	07/08/14 12:50	07/09/14 12:01	7429-90-5	
Antimony	ND	ug/L	100	2	07/08/14 12:50	07/09/14 12:01	7440-36-0	D3
Arsenic	**1290**	ug/L	50.0	1	07/08/14 12:50	07/09/14 11:58	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 12:50	07/09/14 11:58	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 12:50	07/09/14 11:58	7440-43-9	
Chromium	**280**	ug/L	25.0	1	07/08/14 12:50	07/09/14 11:58	7440-47-3	
Cobalt	**41.9**	ug/L	25.0	1	07/08/14 12:50	07/09/14 11:58	7440-48-4	
Copper	ND	ug/L	50.0	1	07/08/14 12:50	07/09/14 11:58	7440-50-8	
Iron	**835000**	ug/L	250	1	07/08/14 12:50	07/09/14 11:58	7439-89-6	
Lead	**150**	ug/L	25.0	1	07/08/14 12:50	07/09/14 11:58	7439-92-1	
Nickel	**124**	ug/L	25.0	1	07/08/14 12:50	07/09/14 11:58	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 12:50	07/09/14 11:58	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 12:50	07/09/14 11:58	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 12:50	07/09/14 11:58	7440-28-0	
Zinc	**6910**	ug/L	500	2	07/08/14 12:50	07/09/14 12:01	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	07/09/14 10:00	07/09/14 14:59	7429-90-5	
Antimony, Dissolved	**69.4**	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:56	7440-36-0	D9
Arsenic, Dissolved	**976**	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:56	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 10:00	07/09/14 14:56	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:56	7440-43-9	
Chromium, Dissolved	**187**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:56	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:56	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 10:00	07/09/14 14:56	7440-50-8	
Iron, Dissolved	**354000**	ug/L	250	1	07/09/14 10:00	07/09/14 14:56	7439-89-6	
Lead, Dissolved	**25.1**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:56	7439-92-1	
Nickel, Dissolved	**104**	ug/L	25.0	1	07/09/14 10:00	07/09/14 14:56	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 10:00	07/09/14 14:56	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 10:00	07/09/14 14:56	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 10:00	07/09/14 14:56	7440-28-0	
Zinc, Dissolved	**5450**	ug/L	500	2	07/09/14 10:00	07/09/14 14:59	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:12	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/07/14 11:15	07/07/14 14:09	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/09/14 00:00	07/10/14 15:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/09/14 00:00	07/10/14 15:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4800**	ug/L	4000	2	07/09/14 00:00	07/10/14 15:40		N2

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Sample: 316-348 **Lab ID: 60172910001** Collected: 07/02/14 11:00 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	87-86-5	
Phenol	**6350**	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 15:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	07/09/14 00:00	07/10/14 15:40	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	07/09/14 00:00	07/10/14 15:40	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	07/09/14 00:00	07/10/14 15:40	1718-51-0	
Phenol-d6 (S)	23	%	11-120	2	07/09/14 00:00	07/10/14 15:40	13127-88-3	
2-Fluorophenol (S)	34	%	17-120	2	07/09/14 00:00	07/10/14 15:40	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	07/09/14 00:00	07/10/14 15:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**80800**	ug/L	2000	200		07/08/14 05:54	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 05:54	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 05:54	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 05:54	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 05:54	74-83-9	
2-Butanone (MEK)	**35000**	ug/L	2000	200		07/08/14 05:54	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 05:54	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 05:54	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 05:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 05:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 05:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 05:54	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 05:54	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 05:54	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 05:54	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 05:54	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 05:54	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 05:54	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 05:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 05:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 05:54	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 05:54	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 05:54	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 05:54	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/08/14 05:54	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		07/08/14 05:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	200		07/08/14 05:54	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 05:54		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**684**	mg/L	5.0	1		07/08/14 15:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Sample: 316-348 **Lab ID: 60172910001** Collected: 07/02/14 11:00 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.7**	mg/L	5.0	1		07/08/14 15:16		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4200**	mg/L	5.0	1		07/03/14 13:46		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30600**	mg/L	2.0	1	07/03/14 15:30	07/08/14 11:50		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**572**	mg/L	20.0	200		07/10/14 14:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51900**	mg/L	5000	500		07/09/14 09:33		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Sample: TRIP BLANK **Lab ID: 60172910002** Collected: 07/02/14 11:00 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/08/14 03:50	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 03:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 03:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 03:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 03:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 03:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 03:50	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 03:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 03:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 03:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 03:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 03:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 03:50	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 03:50	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 03:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 03:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 03:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 03:50	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 03:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 03:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 03:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 03:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 03:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 03:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/08/14 03:50	460-00-4	
Toluene-d8 (S)	92	%	80-120	1		07/08/14 03:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		07/08/14 03:50	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 03:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172910001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: MERP/8557
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172910001

METHOD BLANK: 1406624 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/07/14 13:56	

LABORATORY CONTROL SAMPLE: 1406625

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406626 1406627

Parameter	Units	60172794001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	92.4	85.5	62	57	70-130	8	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: MPRP/27929
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172910001

METHOD BLANK: 1406676
Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 11:44	
Antimony	ug/L	ND	10.0	07/09/14 11:44	
Arsenic	ug/L	ND	10.0	07/09/14 11:44	
Beryllium	ug/L	ND	1.0	07/09/14 11:44	
Cadmium	ug/L	ND	5.0	07/09/14 11:44	
Chromium	ug/L	ND	5.0	07/09/14 11:44	
Cobalt	ug/L	ND	5.0	07/09/14 11:44	
Copper	ug/L	ND	10.0	07/09/14 11:44	
Iron	ug/L	ND	50.0	07/09/14 11:44	
Lead	ug/L	ND	5.0	07/09/14 11:44	
Nickel	ug/L	ND	5.0	07/09/14 11:44	
Selenium	ug/L	ND	15.0	07/09/14 11:44	
Silver	ug/L	ND	7.0	07/09/14 11:44	
Thallium	ug/L	ND	20.0	07/09/14 11:44	
Zinc	ug/L	ND	50.0	07/09/14 11:44	

LABORATORY CONTROL SAMPLE: 1406677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9290	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	924	92	85-115	
Beryllium	ug/L	1000	929	93	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	927	93	85-115	
Cobalt	ug/L	1000	965	97	85-115	
Copper	ug/L	1000	933	93	85-115	
Iron	ug/L	10000	9200	92	85-115	
Lead	ug/L	1000	955	96	85-115	
Nickel	ug/L	1000	965	96	85-115	
Selenium	ug/L	1000	938	94	85-115	
Silver	ug/L	500	462	92	85-115	
Thallium	ug/L	1000	952	95	85-115	
Zinc	ug/L	1000	948	95	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406678 1406679

Parameter	Units	60172733001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	405000	10000	10000	358000	369000	-470	-366	70-130	3	8	M1
Antimony	ug/L	31.6	1000	1000	649	684	62	65	70-130	5	7	M1
Arsenic	ug/L	ND	1000	1000	908	920	90	91	70-130	1	10	
Beryllium	ug/L	2.9	1000	1000	920	928	92	92	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	920	925	92	92	70-130	1	10	
Chromium	ug/L	64.5	1000	1000	955	972	89	91	70-130	2	10	
Cobalt	ug/L	6.0	1000	1000	940	945	93	94	70-130	1	6	
Copper	ug/L	371	1000	1000	1230	1260	86	89	70-130	2	11	
Iron	ug/L	15500	10000	10000	21900	22500	64	70	70-130	3	10	M1
Lead	ug/L	374	1000	1000	1260	1290	89	91	70-130	2	10	
Nickel	ug/L	58.5	1000	1000	979	988	92	93	70-130	1	10	
Selenium	ug/L	ND	1000	1000	510	590	50	58	70-130	15	10	M1,R1
Silver	ug/L	ND	500	500	453	459	90	92	70-130	1	10	
Thallium	ug/L	ND	1000	1000	190	188	19	19	70-130	1	6	M1
Zinc	ug/L	2170	1000	1000	2950	3050	79	88	70-130	3	11	

MATRIX SPIKE SAMPLE: 1406680

Parameter	Units	60173034001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2680	50000	53900	102	70-130	
Antimony	ug/L	ND	5000	5310	105	70-130	
Arsenic	ug/L	978	5000	7060	122	70-130	
Beryllium	ug/L	ND	5000	4990	100	70-130	
Cadmium	ug/L	ND	5000	5640	113	70-130	
Chromium	ug/L	209	5000	5430	104	70-130	
Cobalt	ug/L	28.4	5000	5290	105	70-130	
Copper	ug/L	ND	5000	5520	110	70-130	
Iron	ug/L	518000	50000	678000	320	70-130	M1
Lead	ug/L	85.2	5000	5000	98	70-130	
Nickel	ug/L	95.3	5000	5280	104	70-130	
Selenium	ug/L	ND	5000	6340	126	70-130	
Silver	ug/L	ND	2500	2900	116	70-130	
Thallium	ug/L	ND	5000	4620	92	70-130	
Zinc	ug/L	6080	5000	12000	119	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: MPRP/27959
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172910001

METHOD BLANK: 1407699
Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/09/14 14:29	
Antimony, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Arsenic, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Beryllium, Dissolved	ug/L	ND	1.0	07/09/14 14:29	
Cadmium, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Chromium, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Cobalt, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Copper, Dissolved	ug/L	ND	10.0	07/09/14 14:29	
Iron, Dissolved	ug/L	ND	50.0	07/09/14 14:29	
Lead, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Nickel, Dissolved	ug/L	ND	5.0	07/09/14 14:29	
Selenium, Dissolved	ug/L	ND	15.0	07/09/14 14:29	
Silver, Dissolved	ug/L	ND	7.0	07/09/14 14:29	
Thallium, Dissolved	ug/L	ND	20.0	07/09/14 14:29	
Zinc, Dissolved	ug/L	ND	50.0	07/09/14 14:29	

LABORATORY CONTROL SAMPLE: 1407700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	917	92	85-115	
Beryllium, Dissolved	ug/L	1000	1050	105	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1100	110	85-115	
Cobalt, Dissolved	ug/L	1000	991	99	85-115	
Copper, Dissolved	ug/L	1000	1070	107	85-115	
Iron, Dissolved	ug/L	10000	9930	99	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	966	97	85-115	
Silver, Dissolved	ug/L	500	537	107	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	968	97	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407701 1407702

Parameter	Units	60172794001 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	2000	50000	50000	54400	54000	105	104	70-130	1	8	
Antimony, Dissolved	ug/L	60.6	5000	5000	5390	5320	107	105	70-130	1	7	
Arsenic, Dissolved	ug/L	958	5000	5000	6420	6260	109	106	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4970	5020	99	100	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5480	5340	109	107	70-130	2	10	
Chromium, Dissolved	ug/L	191	5000	5000	5500	5400	106	104	70-130	2	10	
Cobalt, Dissolved	ug/L	29.7	5000	5000	4770	4700	95	93	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5720	5660	114	113	70-130	1	11	
Iron, Dissolved	ug/L	368000	50000	50000	458000	431000	179	126	70-130	6	10	M1
Lead, Dissolved	ug/L	ND	5000	5000	4620	4560	92	91	70-130	1	10	
Nickel, Dissolved	ug/L	97.1	5000	5000	4990	4920	98	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	5920	120	118	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2890	2860	115	114	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4320	4280	86	86	70-130	1	6	
Zinc, Dissolved	ug/L	5260	5000	5000	10300	10000	101	95	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172910001, 60172910002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60172910001, 60172910002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: OEXT/45010
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172910001

METHOD BLANK: 1407503 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/10/14 14:38	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/10/14 14:38	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/10/14 14:38	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/10/14 14:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachloroethane	ug/L	ND	5.0	07/10/14 14:38	
Naphthalene	ug/L	ND	5.0	07/10/14 14:38	
Nitrobenzene	ug/L	ND	5.0	07/10/14 14:38	
Pentachlorophenol	ug/L	ND	5.0	07/10/14 14:38	
Phenol	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Tribromophenol (S)	%	75	39-120	07/10/14 14:38	
2-Fluorobiphenyl (S)	%	73	39-120	07/10/14 14:38	
2-Fluorophenol (S)	%	32	17-120	07/10/14 14:38	
Nitrobenzene-d5 (S)	%	69	33-120	07/10/14 14:38	
Phenol-d6 (S)	%	20	11-120	07/10/14 14:38	
Terphenyl-d14 (S)	%	80	45-120	07/10/14 14:38	

LABORATORY CONTROL SAMPLE: 1407504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.7	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.9	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.7	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.0	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	48.9	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.1	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	36.3	73	43-113	
Naphthalene	ug/L	50	39.3	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	43.4	87	47-120	
Phenol	ug/L	50	12.9	26	16-112	
2,4,6-Tribromophenol (S)	%			91	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			35	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			22	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

MATRIX SPIKE SAMPLE: 1407505

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3660	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4370	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	2990	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4800	5000	6740	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4540J	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3390	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7380	74	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	ND	5000	3930	76	45-120	
Nitrobenzene	ug/L	ND	5000	3880	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4870	97	43-135	
Phenol	ug/L	6350	5000	6960	12	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				34	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WET/48916 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172910001

METHOD BLANK: 1407316 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WET/48917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172910001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WET/48847
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172910001

METHOD BLANK: 1405790
Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/03/14 13:43	

SAMPLE DUPLICATE: 1405791

Parameter	Units	60172832001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	12.0	29	10	D6

SAMPLE DUPLICATE: 1405792

Parameter	Units	60172896001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	17.0	23.0	30	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172910001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WET/48846 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172910001

METHOD BLANK: 1405708 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/08/14 11:07	

LABORATORY CONTROL SAMPLE: 1405709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	216	109	85-115	

SAMPLE DUPLICATE: 1405710

Parameter	Units	60172814004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	127	120	6	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172910001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

QC Batch: WETA/30131 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172910001

METHOD BLANK: 1406817 Matrix: Water
Associated Lab Samples: 60172910001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:24	

LABORATORY CONTROL SAMPLE: 1406818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1406819

Parameter	Units	60172784008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6350	5000	11000	94	90-110	

MATRIX SPIKE SAMPLE: 1406821

Parameter	Units	60172954001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	90.5	50	137	92	90-110	

SAMPLE DUPLICATE: 1406820

Parameter	Units	60172784010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	110	120	9	25	

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QUALIFIERS

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-348
Pace Project No.: 60172910

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172910001	**316-348**	EPA 200.7	MPRP/27929	EPA 200.7	ICP/21126
60172910001	**316-348**	EPA 200.7	MPRP/27959	EPA 200.7	ICP/21141
60172910001	**316-348**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60172910001	**316-348**	EPA 245.1	MERP/8557	EPA 245.1	MERC/8512
60172910001	**316-348**	EPA 625	OEXT/45010	EPA 625	MSSV/14429
60172910001	**316-348**	EPA 624 Low	MSV/62855		
60172910002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60172910001	**316-348**	EPA 1664A	WET/48916		
60172910001	**316-348**	EPA 1664A	WET/48917		
60172910001	**316-348**	SM 2540D	WET/48847		
60172910001	**316-348**	SM 4500-H+B	WET/48861		
60172910001	**316-348**	SM 5210B	WET/48846	SM 5210B	WET/48909
60172910001	**316-348**	EPA 350.1	WETA/30176		
60172910001	**316-348**	EPA 410.4	WETA/30131		

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Sample Condition Upon Receipt

WO#: 60172910

60172910

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5-0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 7/3/14

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:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	added 2.0 ml of H2SO4 to BP3S. ~~pH<6~~ pv 7/3/14 pH 4.5/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☑No ☐N/A	14. Added 2.5 ml of HNO3 to BP3N. pH 6.0/4.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: pv / Lot # of added preservative: 12524 / 12513
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cover	pv 7/3/14	15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MS Date: 7/3/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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)	
	MATRIX: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS																															
1	316-348 2AG4U 1BP3U 3AG3S	OT	G	7/2/14	1100				15	10	4	1	0	1BP3N	4-0			X	X	X	X	X	X	X	X	X	X	1BP3S		3-0 2BP2U 5DG9U 2DG9U	
2	TRIP BLANK								2	2															X							
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FBI	7-2-14	2:50		7-2-14	2:50				
SITE ADDRESS: BRIDGETON LF				PASI	7/3/14	0055	5-0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:		DATE Signed: 7/2/14				

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

July 14, 2014

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

RE: Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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CERTIFICATIONS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60172911001	**CB 07-01-14**	Water	07/02/14 11:20	07/03/14 00:55
60172911002	**TRIP BLANK**	Water	07/02/14 11:20	07/03/14 00:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60172911001	**CB 07-01-14**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60172911002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Sample: CB 07-01-14 **Lab ID: 60172911001** Collected: 07/02/14 11:20 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3290**	ug/L	375	1	07/08/14 12:50	07/09/14 12:12	7429-90-5	
Antimony	ND	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:12	7440-36-0	
Arsenic	**519**	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:12	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 12:50	07/09/14 12:12	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:12	7440-43-9	
Chromium	**120**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:12	7440-47-3	
Cobalt	ND	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:12	7440-48-4	
Copper	ND	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:12	7440-50-8	
Iron	**383000**	ug/L	250	1	07/08/14 12:50	07/09/14 12:12	7439-89-6	
Lead	**64.8**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:12	7439-92-1	
Nickel	**56.8**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:12	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 12:50	07/09/14 12:12	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 12:50	07/09/14 12:12	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 12:50	07/09/14 12:12	7440-28-0	
Zinc	**3840**	ug/L	250	1	07/08/14 12:50	07/09/14 12:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	ND	ug/L	375	1	07/09/14 11:45	07/10/14 13:02	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:02	7440-36-0	
Arsenic, Dissolved	**468**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:02	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 11:45	07/10/14 13:02	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:02	7440-43-9	
Chromium, Dissolved	**89.8**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:02	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:02	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:02	7440-50-8	
Iron, Dissolved	**296000**	ug/L	250	1	07/09/14 11:45	07/10/14 13:02	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:02	7439-92-1	
Nickel, Dissolved	**42.4**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:02	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 11:45	07/10/14 13:02	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 11:45	07/10/14 13:02	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 11:45	07/10/14 13:02	7440-28-0	
Zinc, Dissolved	**1660**	ug/L	250	1	07/09/14 11:45	07/10/14 13:02	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:14	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 14:34	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/09/14 00:00	07/10/14 16:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/09/14 00:00	07/10/14 16:01	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	07/09/14 00:00	07/10/14 16:01		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Sample: CB 07-01-14 **Lab ID: 60172911001** Collected: 07/02/14 11:20 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	87-86-5	
Phenol	**3180**	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	79	%	33-120	2	07/09/14 00:00	07/10/14 16:01	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	2	07/09/14 00:00	07/10/14 16:01	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	07/09/14 00:00	07/10/14 16:01	1718-51-0	
Phenol-d6 (S)	21	%	11-120	2	07/09/14 00:00	07/10/14 16:01	13127-88-3	
2-Fluorophenol (S)	34	%	17-120	2	07/09/14 00:00	07/10/14 16:01	367-12-4	
2,4,6-Tribromophenol (S)	81	%	39-120	2	07/09/14 00:00	07/10/14 16:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**8680**	ug/L	2000	200		07/08/14 06:10	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 06:10	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 06:10	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 06:10	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 06:10	74-83-9	
2-Butanone (MEK)	**4230**	ug/L	2000	200		07/08/14 06:10	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 06:10	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 06:10	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 06:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 06:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 06:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:10	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:10	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 06:10	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 06:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 06:10	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 06:10	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 06:10	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 06:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 06:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 06:10	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 06:10	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 06:10	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 06:10	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	200		07/08/14 06:10	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		07/08/14 06:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		07/08/14 06:10	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 06:10		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**688**	mg/L	5.0	1		07/08/14 15:08		D6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Sample: CB 07-01-14 **Lab ID: 60172911001** Collected: 07/02/14 11:20 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**18.0**	mg/L	5.0	1		07/08/14 15:16		D6
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3200**	mg/L	5.0	1		07/03/14 13:46		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**24500**	mg/L	2.0	1	07/03/14 15:37	07/08/14 11:56		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**283**	mg/L	20.0	200		07/10/14 14:08	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**23000**	mg/L	2500	250		07/09/14 09:33		1e

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

Sample: TRIP BLANK **Lab ID: 60172911002** Collected: 07/02/14 11:20 Received: 07/03/14 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/08/14 04:05	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 04:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 04:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 04:05	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 04:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 04:05	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 04:05	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 04:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 04:05	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 04:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 04:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:05	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:05	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 04:05	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 04:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 04:05	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 04:05	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 04:05	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 04:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 04:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 04:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 04:05	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/08/14 04:05	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/08/14 04:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		07/08/14 04:05	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 04:05		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60172911001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: MERP/8570
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60172911001

METHOD BLANK: 1407669 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/09/14 14:30	

LABORATORY CONTROL SAMPLE: 1407670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407671 1407672

Parameter	Units	60172911001 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	159	158	106	105	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: MPRP/27929
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60172911001

METHOD BLANK: 1406676
Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 11:44	
Antimony	ug/L	ND	10.0	07/09/14 11:44	
Arsenic	ug/L	ND	10.0	07/09/14 11:44	
Beryllium	ug/L	ND	1.0	07/09/14 11:44	
Cadmium	ug/L	ND	5.0	07/09/14 11:44	
Chromium	ug/L	ND	5.0	07/09/14 11:44	
Cobalt	ug/L	ND	5.0	07/09/14 11:44	
Copper	ug/L	ND	10.0	07/09/14 11:44	
Iron	ug/L	ND	50.0	07/09/14 11:44	
Lead	ug/L	ND	5.0	07/09/14 11:44	
Nickel	ug/L	ND	5.0	07/09/14 11:44	
Selenium	ug/L	ND	15.0	07/09/14 11:44	
Silver	ug/L	ND	7.0	07/09/14 11:44	
Thallium	ug/L	ND	20.0	07/09/14 11:44	
Zinc	ug/L	ND	50.0	07/09/14 11:44	

LABORATORY CONTROL SAMPLE: 1406677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9290	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	924	92	85-115	
Beryllium	ug/L	1000	929	93	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	927	93	85-115	
Cobalt	ug/L	1000	965	97	85-115	
Copper	ug/L	1000	933	93	85-115	
Iron	ug/L	10000	9200	92	85-115	
Lead	ug/L	1000	955	96	85-115	
Nickel	ug/L	1000	965	96	85-115	
Selenium	ug/L	1000	938	94	85-115	
Silver	ug/L	500	462	92	85-115	
Thallium	ug/L	1000	952	95	85-115	
Zinc	ug/L	1000	948	95	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406678 1406679

Parameter	Units	60172733001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	405000	10000	10000	358000	369000	-470	-366	70-130	3	8	M1
Antimony	ug/L	31.6	1000	1000	649	684	62	65	70-130	5	7	M1
Arsenic	ug/L	ND	1000	1000	908	920	90	91	70-130	1	10	
Beryllium	ug/L	2.9	1000	1000	920	928	92	92	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	920	925	92	92	70-130	1	10	
Chromium	ug/L	64.5	1000	1000	955	972	89	91	70-130	2	10	
Cobalt	ug/L	6.0	1000	1000	940	945	93	94	70-130	1	6	
Copper	ug/L	371	1000	1000	1230	1260	86	89	70-130	2	11	
Iron	ug/L	15500	10000	10000	21900	22500	64	70	70-130	3	10	M1
Lead	ug/L	374	1000	1000	1260	1290	89	91	70-130	2	10	
Nickel	ug/L	58.5	1000	1000	979	988	92	93	70-130	1	10	
Selenium	ug/L	ND	1000	1000	510	590	50	58	70-130	15	10	M1,R1
Silver	ug/L	ND	500	500	453	459	90	92	70-130	1	10	
Thallium	ug/L	ND	1000	1000	190	188	19	19	70-130	1	6	M1
Zinc	ug/L	2170	1000	1000	2950	3050	79	88	70-130	3	11	

MATRIX SPIKE SAMPLE: 1406680

Parameter	Units	60173034001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2680	50000	53900	102	70-130	
Antimony	ug/L	ND	5000	5310	105	70-130	
Arsenic	ug/L	978	5000	7060	122	70-130	
Beryllium	ug/L	ND	5000	4990	100	70-130	
Cadmium	ug/L	ND	5000	5640	113	70-130	
Chromium	ug/L	209	5000	5430	104	70-130	
Cobalt	ug/L	28.4	5000	5290	105	70-130	
Copper	ug/L	ND	5000	5520	110	70-130	
Iron	ug/L	518000	50000	678000	320	70-130	M1
Lead	ug/L	85.2	5000	5000	98	70-130	
Nickel	ug/L	95.3	5000	5280	104	70-130	
Selenium	ug/L	ND	5000	6340	126	70-130	
Silver	ug/L	ND	2500	2900	116	70-130	
Thallium	ug/L	ND	5000	4620	92	70-130	
Zinc	ug/L	6080	5000	12000	119	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: MPRP/27969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60172911001

METHOD BLANK: 1407906
Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/10/14 12:58	
Antimony, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Arsenic, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Beryllium, Dissolved	ug/L	ND	1.0	07/10/14 12:58	
Cadmium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Chromium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Cobalt, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Copper, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Iron, Dissolved	ug/L	ND	50.0	07/10/14 12:58	
Lead, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Nickel, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Selenium, Dissolved	ug/L	ND	15.0	07/10/14 12:58	
Silver, Dissolved	ug/L	ND	7.0	07/10/14 12:58	
Thallium, Dissolved	ug/L	ND	20.0	07/10/14 12:58	
Zinc, Dissolved	ug/L	ND	50.0	07/10/14 12:58	

LABORATORY CONTROL SAMPLE: 1407907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9910	99	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	999	100	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	9990	100	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	1010	101	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407908 1407909

Parameter	Units	60173039001 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	1830	50000	50000	53100	52900	103	102	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5710	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6740	6880	115	118	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4810	4850	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5450	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	167	5000	5000	4880	4920	94	95	70-130	1	10	
Cobalt, Dissolved	ug/L	27.9	5000	5000	4970	4980	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5600	5620	112	112	70-130	0	11	
Iron, Dissolved	ug/L	354000	50000	50000	386000	418000	64	130	70-130	8	10	M1
Lead, Dissolved	ug/L	31.2	5000	5000	4720	4700	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	5020	5020	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6300	6410	126	128	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2710	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4300	87	86	70-130	1	6	
Zinc, Dissolved	ug/L	5600	5000	5000	10000	10400	89	97	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60172911001, 60172911002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60172911001, 60172911002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: OEXT/45010
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60172911001

METHOD BLANK: 1407503
Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/10/14 14:38	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/10/14 14:38	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/10/14 14:38	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/10/14 14:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachloroethane	ug/L	ND	5.0	07/10/14 14:38	
Naphthalene	ug/L	ND	5.0	07/10/14 14:38	
Nitrobenzene	ug/L	ND	5.0	07/10/14 14:38	
Pentachlorophenol	ug/L	ND	5.0	07/10/14 14:38	
Phenol	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Tribromophenol (S)	%	75	39-120	07/10/14 14:38	
2-Fluorobiphenyl (S)	%	73	39-120	07/10/14 14:38	
2-Fluorophenol (S)	%	32	17-120	07/10/14 14:38	
Nitrobenzene-d5 (S)	%	69	33-120	07/10/14 14:38	
Phenol-d6 (S)	%	20	11-120	07/10/14 14:38	
Terphenyl-d14 (S)	%	80	45-120	07/10/14 14:38	

LABORATORY CONTROL SAMPLE: 1407504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.7	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.9	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.7	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.0	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	48.9	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.1	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	36.3	73	43-113	
Naphthalene	ug/L	50	39.3	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	43.4	87	47-120	
Phenol	ug/L	50	12.9	26	16-112	
2,4,6-Tribromophenol (S)	%			91	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			35	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			22	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

MATRIX SPIKE SAMPLE: 1407505

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3660	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4370	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	2990	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4800	5000	6740	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4540J	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3390	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7380	74	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	ND	5000	3930	76	45-120	
Nitrobenzene	ug/L	ND	5000	3880	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4870	97	43-135	
Phenol	ug/L	6350	5000	6960	12	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				34	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WET/48916 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60172911001

METHOD BLANK: 1407316 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WET/48917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60172911001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WET/48847 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60172911001

METHOD BLANK: 1405790 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/03/14 13:43	

SAMPLE DUPLICATE: 1405791

Parameter	Units	60172832001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	9.0	12.0	29	10	D6

SAMPLE DUPLICATE: 1405792

Parameter	Units	60172896001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	17.0	23.0	30	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60172911001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WET/48846
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60172911001

METHOD BLANK: 1405708 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/08/14 11:07	

LABORATORY CONTROL SAMPLE: 1405709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	216	109	85-115	

SAMPLE DUPLICATE: 1405710

Parameter	Units	60172814004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	127	120	6	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60172911001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

QC Batch: WETA/30131 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60172911001

METHOD BLANK: 1406817 Matrix: Water
Associated Lab Samples: 60172911001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:24	

LABORATORY CONTROL SAMPLE: 1406818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1406819

Parameter	Units	60172784008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6350	5000	11000	94	90-110	

MATRIX SPIKE SAMPLE: 1406821

Parameter	Units	60172954001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	90.5	50	137	92	90-110	

SAMPLE DUPLICATE: 1406820

Parameter	Units	60172784010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	110	120	9	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF CB 07-01-14
Pace Project No.: 60172911

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	The BOD result is greater than the COD. Data is within laboratory control limits.
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 CB 07-01-14
Pace Project No.: 60172911

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60172911001	**CB 07-01-14**	EPA 200.7	MPRP/27929	EPA 200.7	ICP/21126
60172911001	**CB 07-01-14**	EPA 200.7	MPRP/27969	EPA 200.7	ICP/21142
60172911001	**CB 07-01-14**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60172911001	**CB 07-01-14**	EPA 245.1	MERP/8570	EPA 245.1	MERC/8525
60172911001	**CB 07-01-14**	EPA 625	OEXT/45010	EPA 625	MSSV/14429
60172911001	**CB 07-01-14**	EPA 624 Low	MSV/62855		
60172911002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60172911001	**CB 07-01-14**	EPA 1664A	WET/48916		
60172911001	**CB 07-01-14**	EPA 1664A	WET/48917		
60172911001	**CB 07-01-14**	SM 2540D	WET/48847		
60172911001	**CB 07-01-14**	SM 4500-H+B	WET/48861		
60172911001	**CB 07-01-14**	SM 5210B	WET/48846	SM 5210B	WET/48909
60172911001	**CB 07-01-14**	EPA 350.1	WETA/30176		
60172911001	**CB 07-01-14**	EPA 410.4	WETA/30131		

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Sample Condition Upon Receipt

WO#: 60172911

60172911

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5-4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 7/31/14

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. 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 BP2N. pH 5.5/3.5 Added 2.0 mL of H2SO4 to BP3S. pH 4.0/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: PV Lot # of added preservative: 12513 12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cover		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/31/14

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	Regulatory Agency
Email To:	Purchase Order No.	Pace Quote Reference: 130426_7588	
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie	State / Location
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017291
1	1BP3N 5 CB 07-01-142 1AG4U 1BP3U	OT	G	7/2/14	1120	—	—		15	10	4	1	0	3AG3S		1BP3S	5+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] FEI	7-2-14	2:50	[signature]	7-2-14	2:50				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/3/14	0055	5.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/2/14

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

July 24, 2014

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

RE: Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on July 04, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Amended report, REV-1 on 7/24/15, to add BOD reanalysis.

Amended report, REV-2 on 7/24/15, to add BOD reanalysis and original BOD result. An explanation is also given for the revised TSS result.

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

Sincerely,

Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173034001	**316-349**	Water	07/03/14 07:24	07/04/14 01:30
60173034002	**TRIP BLANK**	Water	07/03/14 07:24	07/04/14 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173034001	**316-349**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	JML, NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173034002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Sample: 316-349 **Lab ID: 60173034001** Collected: 07/03/14 07:24 Received: 07/04/14 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	**2680**	ug/L	750	2	07/08/14 12:50	07/09/14 12:39	7429-90-5	
Antimony	ND	ug/L	100	2	07/08/14 12:50	07/09/14 12:39	7440-36-0	D3
Arsenic	**978**	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:36	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 12:50	07/09/14 12:36	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:36	7440-43-9	
Chromium	**209**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:36	7440-47-3	
Cobalt	**28.4**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:36	7440-48-4	
Copper	ND	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:36	7440-50-8	
Iron	**518000**	ug/L	2500	10	07/08/14 12:50	07/09/14 17:55	7439-89-6	M1
Lead	**85.2**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:36	7439-92-1	
Nickel	**95.3**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:36	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 12:50	07/09/14 12:36	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 12:50	07/09/14 12:36	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 12:50	07/09/14 12:36	7440-28-0	
Zinc	**6080**	ug/L	500	2	07/08/14 12:50	07/09/14 12:39	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1920**	ug/L	750	2	07/09/14 11:45	07/10/14 13:09	7429-90-5	
Antimony, Dissolved	**60.1**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:07	7440-36-0	
Arsenic, Dissolved	**1110**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:07	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 11:45	07/10/14 13:07	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:07	7440-43-9	
Chromium, Dissolved	**199**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:07	7440-47-3	
Cobalt, Dissolved	**35.3**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:07	7440-48-4	D9
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:07	7440-50-8	
Iron, Dissolved	**400000**	ug/L	250	1	07/09/14 11:45	07/10/14 13:07	7439-89-6	
Lead, Dissolved	**34.5**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:07	7439-92-1	
Nickel, Dissolved	**107**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:07	7440-02-0	D9
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 11:45	07/10/14 13:07	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 11:45	07/10/14 13:07	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 11:45	07/10/14 13:07	7440-28-0	
Zinc, Dissolved	**6290**	ug/L	500	2	07/09/14 11:45	07/10/14 13:09	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:17	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	07/09/14 09:45	07/09/14 14:48	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/09/14 00:00	07/10/14 16:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/09/14 00:00	07/10/14 16:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**5570**	ug/L	4000	2	07/09/14 00:00	07/10/14 16:22		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Sample: 316-349 **Lab ID: 60173034001** Collected: 07/03/14 07:24 Received: 07/04/14 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	87-86-5	
Phenol	**7290**	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	113	%	33-120	2	07/09/14 00:00	07/10/14 16:22	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	2	07/09/14 00:00	07/10/14 16:22	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	07/09/14 00:00	07/10/14 16:22	1718-51-0	
Phenol-d6 (S)	22	%	11-120	2	07/09/14 00:00	07/10/14 16:22	13127-88-3	
2-Fluorophenol (S)	33	%	17-120	2	07/09/14 00:00	07/10/14 16:22	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	07/09/14 00:00	07/10/14 16:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**75500**	ug/L	2000	200		07/08/14 06:25	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 06:25	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 06:25	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 06:25	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 06:25	74-83-9	
2-Butanone (MEK)	**31600**	ug/L	2000	200		07/08/14 06:25	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 06:25	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 06:25	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 06:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 06:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 06:25	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:25	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:25	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 06:25	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 06:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 06:25	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 06:25	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 06:25	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 06:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 06:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 06:25	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 06:25	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 06:25	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 06:25	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/08/14 06:25	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		07/08/14 06:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		07/08/14 06:25	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 06:25		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**624**	mg/L	5.0	1		07/08/14 15:09		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Sample: 316-349 **Lab ID: 60173034001** Collected: 07/03/14 07:24 Received: 07/04/14 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	**11.6**	mg/L	5.0	1		07/08/14 15:17		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4760**	mg/L	5.0	1		07/07/14 09:59		1e
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**93000**	mg/L	2.0	1	07/04/14 10:37	07/09/14 12:20		B3,L1
BOD, 5 day	**29000**	mg/L	2.0	1	07/16/14 16:40	07/21/14 12:22		H1
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**539**	mg/L	20.0	200		07/10/14 14:10	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56000**	mg/L	5000	500		07/09/14 09:35		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Sample: TRIP BLANK **Lab ID: 60173034002** Collected: 07/03/14 07:24 Received: 07/04/14 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		07/08/14 04:21	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 04:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 04:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 04:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 04:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 04:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 04:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 04:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 04:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 04:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 04:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 04:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 04:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 04:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 04:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 04:21	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 04:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 04:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 04:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 04:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/08/14 04:21	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		07/08/14 04:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		07/08/14 04:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 04:21		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173034001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: MERP/8570
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173034001

METHOD BLANK: 1407669 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/09/14 14:30	

LABORATORY CONTROL SAMPLE: 1407670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407671 1407672

Parameter	Units	60172911001 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	159	158	106	105	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: MPRP/27929
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173034001

METHOD BLANK: 1406676
Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 11:44	
Antimony	ug/L	ND	10.0	07/09/14 11:44	
Arsenic	ug/L	ND	10.0	07/09/14 11:44	
Beryllium	ug/L	ND	1.0	07/09/14 11:44	
Cadmium	ug/L	ND	5.0	07/09/14 11:44	
Chromium	ug/L	ND	5.0	07/09/14 11:44	
Cobalt	ug/L	ND	5.0	07/09/14 11:44	
Copper	ug/L	ND	10.0	07/09/14 11:44	
Iron	ug/L	ND	50.0	07/09/14 11:44	
Lead	ug/L	ND	5.0	07/09/14 11:44	
Nickel	ug/L	ND	5.0	07/09/14 11:44	
Selenium	ug/L	ND	15.0	07/09/14 11:44	
Silver	ug/L	ND	7.0	07/09/14 11:44	
Thallium	ug/L	ND	20.0	07/09/14 11:44	
Zinc	ug/L	ND	50.0	07/09/14 11:44	

LABORATORY CONTROL SAMPLE: 1406677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9290	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	924	92	85-115	
Beryllium	ug/L	1000	929	93	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	927	93	85-115	
Cobalt	ug/L	1000	965	97	85-115	
Copper	ug/L	1000	933	93	85-115	
Iron	ug/L	10000	9200	92	85-115	
Lead	ug/L	1000	955	96	85-115	
Nickel	ug/L	1000	965	96	85-115	
Selenium	ug/L	1000	938	94	85-115	
Silver	ug/L	500	462	92	85-115	
Thallium	ug/L	1000	952	95	85-115	
Zinc	ug/L	1000	948	95	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406678 1406679

Parameter	Units	60172733001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	405000	10000	10000	358000	369000	-470	-366	70-130	3	8	M1
Antimony	ug/L	31.6	1000	1000	649	684	62	65	70-130	5	7	M1
Arsenic	ug/L	ND	1000	1000	908	920	90	91	70-130	1	10	
Beryllium	ug/L	2.9	1000	1000	920	928	92	92	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	920	925	92	92	70-130	1	10	
Chromium	ug/L	64.5	1000	1000	955	972	89	91	70-130	2	10	
Cobalt	ug/L	6.0	1000	1000	940	945	93	94	70-130	1	6	
Copper	ug/L	371	1000	1000	1230	1260	86	89	70-130	2	11	
Iron	ug/L	15500	10000	10000	21900	22500	64	70	70-130	3	10	M1
Lead	ug/L	374	1000	1000	1260	1290	89	91	70-130	2	10	
Nickel	ug/L	58.5	1000	1000	979	988	92	93	70-130	1	10	
Selenium	ug/L	ND	1000	1000	510	590	50	58	70-130	15	10	M1,R1
Silver	ug/L	ND	500	500	453	459	90	92	70-130	1	10	
Thallium	ug/L	ND	1000	1000	190	188	19	19	70-130	1	6	M1
Zinc	ug/L	2170	1000	1000	2950	3050	79	88	70-130	3	11	

MATRIX SPIKE SAMPLE: 1406680

Parameter	Units	60173034001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2680	50000	53900	102	70-130	
Antimony	ug/L	ND	5000	5310	105	70-130	
Arsenic	ug/L	978	5000	7060	122	70-130	
Beryllium	ug/L	ND	5000	4990	100	70-130	
Cadmium	ug/L	ND	5000	5640	113	70-130	
Chromium	ug/L	209	5000	5430	104	70-130	
Cobalt	ug/L	28.4	5000	5290	105	70-130	
Copper	ug/L	ND	5000	5520	110	70-130	
Iron	ug/L	518000	50000	678000	320	70-130	M1
Lead	ug/L	85.2	5000	5000	98	70-130	
Nickel	ug/L	95.3	5000	5280	104	70-130	
Selenium	ug/L	ND	5000	6340	126	70-130	
Silver	ug/L	ND	2500	2900	116	70-130	
Thallium	ug/L	ND	5000	4620	92	70-130	
Zinc	ug/L	6080	5000	12000	119	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: MPRP/27969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173034001

METHOD BLANK: 1407906
Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/10/14 12:58	
Antimony, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Arsenic, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Beryllium, Dissolved	ug/L	ND	1.0	07/10/14 12:58	
Cadmium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Chromium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Cobalt, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Copper, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Iron, Dissolved	ug/L	ND	50.0	07/10/14 12:58	
Lead, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Nickel, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Selenium, Dissolved	ug/L	ND	15.0	07/10/14 12:58	
Silver, Dissolved	ug/L	ND	7.0	07/10/14 12:58	
Thallium, Dissolved	ug/L	ND	20.0	07/10/14 12:58	
Zinc, Dissolved	ug/L	ND	50.0	07/10/14 12:58	

LABORATORY CONTROL SAMPLE: 1407907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9910	99	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	999	100	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	9990	100	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	1010	101	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407908 1407909

Parameter	Units	60173039001 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	1830	50000	50000	53100	52900	103	102	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5710	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6740	6880	115	118	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4810	4850	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5450	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	167	5000	5000	4880	4920	94	95	70-130	1	10	
Cobalt, Dissolved	ug/L	27.9	5000	5000	4970	4980	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5600	5620	112	112	70-130	0	11	
Iron, Dissolved	ug/L	354000	50000	50000	386000	418000	64	130	70-130	8	10	M1
Lead, Dissolved	ug/L	31.2	5000	5000	4720	4700	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	5020	5020	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6300	6410	126	128	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2710	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4300	87	86	70-130	1	6	
Zinc, Dissolved	ug/L	5600	5000	5000	10000	10400	89	97	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173034001, 60173034002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60173034001, 60173034002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: OEXT/45010
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173034001

METHOD BLANK: 1407503
Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/10/14 14:38	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/10/14 14:38	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/10/14 14:38	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/10/14 14:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachloroethane	ug/L	ND	5.0	07/10/14 14:38	
Naphthalene	ug/L	ND	5.0	07/10/14 14:38	
Nitrobenzene	ug/L	ND	5.0	07/10/14 14:38	
Pentachlorophenol	ug/L	ND	5.0	07/10/14 14:38	
Phenol	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Tribromophenol (S)	%	75	39-120	07/10/14 14:38	
2-Fluorobiphenyl (S)	%	73	39-120	07/10/14 14:38	
2-Fluorophenol (S)	%	32	17-120	07/10/14 14:38	
Nitrobenzene-d5 (S)	%	69	33-120	07/10/14 14:38	
Phenol-d6 (S)	%	20	11-120	07/10/14 14:38	
Terphenyl-d14 (S)	%	80	45-120	07/10/14 14:38	

LABORATORY CONTROL SAMPLE: 1407504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.7	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.9	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.7	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.0	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	48.9	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.1	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	36.3	73	43-113	
Naphthalene	ug/L	50	39.3	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	43.4	87	47-120	
Phenol	ug/L	50	12.9	26	16-112	
2,4,6-Tribromophenol (S)	%			91	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			35	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			22	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

MATRIX SPIKE SAMPLE: 1407505

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3660	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4370	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	2990	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4800	5000	6740	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4540J	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3390	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7380	74	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	ND	5000	3930	76	45-120	
Nitrobenzene	ug/L	ND	5000	3880	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4870	97	43-135	
Phenol	ug/L	6350	5000	6960	12	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				34	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/48916 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173034001

METHOD BLANK: 1407316 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/48917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173034001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/48871 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173034001

METHOD BLANK: 1406501 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/07/14 09:57	

SAMPLE DUPLICATE: 1406502

Parameter	Units	60172919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	224	218	3	10	

SAMPLE DUPLICATE: 1406503

Parameter	Units	60173039001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4900	4780	2	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173034001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/48856 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173034001

METHOD BLANK: 1406260 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	2.2	2.0	07/09/14 11:18	

LABORATORY CONTROL SAMPLE: 1406261

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	278	140	85-115	L0

SAMPLE DUPLICATE: 1406262

Parameter	Units	60172904001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	24.8	25.1	1	17	B3

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WET/49071 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173034001

METHOD BLANK: 1411413 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/21/14 11:51	

LABORATORY CONTROL SAMPLE: 1411414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	201	101	85-115	

SAMPLE DUPLICATE: 1411415

Parameter	Units	60173747001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1100	1070	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173034001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

QC Batch: WETA/30131
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173034001

METHOD BLANK: 1406817 Matrix: Water
Associated Lab Samples: 60173034001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:24	

LABORATORY CONTROL SAMPLE: 1406818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1406819

Parameter	Units	60172784008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6350	5000	11000	94	90-110	

MATRIX SPIKE SAMPLE: 1406821

Parameter	Units	60172954001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	90.5	50	137	92	90-110	

SAMPLE DUPLICATE: 1406820

Parameter	Units	60172784010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	110	120	9	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

WORKORDER QUALIFIERS

WO: 60173034

[2]	The TSS is revised from the original report. The original posted analysis was missing the initial volume for the calculation. This was added and included on the revised report.

ANALYTE QUALIFIERS

1e	Revised result
B3	The dissolved oxygen depletion of the dilution water blank exceeded 0.2 mg/L.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
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.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-349
Pace Project No.: 60173034

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173034001	**316-349**	EPA 200.7	MPRP/27929	EPA 200.7	ICP/21126
60173034001	**316-349**	EPA 200.7	MPRP/27969	EPA 200.7	ICP/21142
60173034001	**316-349**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60173034001	**316-349**	EPA 245.1	MERP/8570	EPA 245.1	MERC/8525
60173034001	**316-349**	EPA 625	OEXT/45010	EPA 625	MSSV/14429
60173034001	**316-349**	EPA 624 Low	MSV/62855		
60173034002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60173034001	**316-349**	EPA 1664A	WET/48916		
60173034001	**316-349**	EPA 1664A	WET/48917		
60173034001	**316-349**	SM 2540D	WET/48871		
60173034001	**316-349**	SM 4500-H+B	WET/48861		
60173034001	**316-349**	SM 5210B	WET/48856	SM 5210B	WET/48932
60173034001	**316-349**	SM 5210B	WET/49071	SM 5210B	WET/49150
60173034001	**316-349**	EPA 350.1	WETA/30176		
60173034001	**316-349**	EPA 410.4	WETA/30131		

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Sample Condition Upon Receipt

WO# : 60173034

60173034

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: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JW 7/4/14

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. Bar pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	HNO3 initial pH ~6.0 ; added 2.5 mL ; final pH ~4.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☒No ☐N/A	H2SO4 initial pH ~6.0 ; add 2 mL ; final pH ~1.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed JW Lot # of added preservative 12513-23-2 12524-2-5
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/7/14

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.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)
1	316-319	OT	G	7/3/14	0724	—	—		10	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X	3(AG3S) 5(AG4U) 2(AG4U)
2	TRIP BLANK	—	—	—	—	—	—		2	2																X				2(DG9U)
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

6017394

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Sehie/FEI	7/3/14	2:11	CW791 Cross Roads	7-3-14	2:14				
SITE ADDRESS: BRIDGETON LF				DAEI	7/4/14	0130	3.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:		DATE Signed: 7/3/14				

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219

Phone: 913.599.5665
Fax: 913.599.1759

CASE NARRATIVE

Pace Project 60173034001-316-349 and 60173039001-316-350, Bridgeton Landfill

TSS batches 48870 and 48871

These batches were part of a data review performed due to a client request. It was noted during the review that the initial volumes used were not properly recorded in software that performs the final calculation. All of the initial volumes were at the default volume. The cause was a human error not caught by our peer review process. We have revised the initial volumes and revised the results accordingly. We have also addressed the process error.

The results have been revised to the following for Total Suspended Solids:

60173034001-316-349	4,760 mg/L
60173039001-316-350	4,900 mg/L

Please accept our earnest apologies for the situation. One of Pace's most fundamental values is to supply only the highest quality data possible to our clients and it is our sincere hope that this isolated incident has not diminished your faith in our abilities to do so.

Gregory A. Busch
Pace Analytical, Inc.
Lenexa-Kansas
Quality Manger

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

July 29, 2014

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

RE: Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 04, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown for
Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173039001	**316-350**	Water	07/04/14 07:00	07/04/14 15:37
60173039002	**TRIP BLANK**	Water	07/04/14 07:00	07/04/14 15:37

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173039001	**316-350**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	NDL	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173039002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Date: July 29, 2014

Amended report revised 07/28/14 for corrected Total Suspended Solids results.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Sample: 316-350 **Lab ID: 60173039001** Collected: 07/04/14 07:00 Received: 07/04/14 15:37 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	**2920**	ug/L	750	2	07/08/14 12:50	07/09/14 12:54	7429-90-5	
Antimony	ND	ug/L	100	2	07/08/14 12:50	07/09/14 12:54	7440-36-0	D3
Arsenic	**1160**	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:50	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 12:50	07/09/14 12:50	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:50	7440-43-9	
Chromium	**234**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:50	7440-47-3	
Cobalt	**33.5**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:50	7440-48-4	
Copper	ND	ug/L	50.0	1	07/08/14 12:50	07/09/14 12:50	7440-50-8	
Iron	**622000**	ug/L	2500	10	07/08/14 12:50	07/09/14 17:57	7439-89-6	
Lead	**101**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:50	7439-92-1	
Nickel	**108**	ug/L	25.0	1	07/08/14 12:50	07/09/14 12:50	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 12:50	07/09/14 12:50	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 12:50	07/09/14 12:50	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 12:50	07/09/14 12:50	7440-28-0	
Zinc	**6720**	ug/L	500	2	07/08/14 12:50	07/09/14 12:54	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1830**	ug/L	750	2	07/09/14 11:45	07/10/14 13:14	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:12	7440-36-0	
Arsenic, Dissolved	**980**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:12	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 11:45	07/10/14 13:12	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:12	7440-43-9	
Chromium, Dissolved	**167**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:12	7440-47-3	
Cobalt, Dissolved	**27.9**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:12	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:12	7440-50-8	
Iron, Dissolved	**354000**	ug/L	250	1	07/09/14 11:45	07/10/14 13:12	7439-89-6	M1
Lead, Dissolved	**31.2**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:12	7439-92-1	
Nickel, Dissolved	**91.4**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:12	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 11:45	07/10/14 13:12	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 11:45	07/10/14 13:12	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 11:45	07/10/14 13:12	7440-28-0	
Zinc, Dissolved	**5600**	ug/L	500	2	07/09/14 11:45	07/10/14 13:14	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:19	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 14:50	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/09/14 00:00	07/10/14 16:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/09/14 00:00	07/10/14 16:43	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4350**	ug/L	4000	2	07/09/14 00:00	07/10/14 16:43		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Sample: 316-350 **Lab ID: 60173039001** Collected: 07/04/14 07:00 Received: 07/04/14 15:37 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	87-86-5	
Phenol	**5700**	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/09/14 00:00	07/10/14 16:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	97	%	33-120	2	07/09/14 00:00	07/10/14 16:43	4165-60-0	
2-Fluorobiphenyl (S)	75	%	39-120	2	07/09/14 00:00	07/10/14 16:43	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	07/09/14 00:00	07/10/14 16:43	1718-51-0	
Phenol-d6 (S)	20	%	11-120	2	07/09/14 00:00	07/10/14 16:43	13127-88-3	
2-Fluorophenol (S)	30	%	17-120	2	07/09/14 00:00	07/10/14 16:43	367-12-4	
2,4,6-Tribromophenol (S)	78	%	39-120	2	07/09/14 00:00	07/10/14 16:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**70700**	ug/L	2000	200		07/08/14 06:41	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 06:41	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 06:41	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 06:41	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 06:41	74-83-9	
2-Butanone (MEK)	**30300**	ug/L	2000	200		07/08/14 06:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 06:41	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 06:41	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 06:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 06:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 06:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:41	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 06:41	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 06:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 06:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 06:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 06:41	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 06:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 06:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 06:41	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 06:41	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 06:41	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 06:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/08/14 06:41	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		07/08/14 06:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		07/08/14 06:41	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 06:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**731**	mg/L	5.0	1		07/08/14 15:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Sample: 316-350 **Lab ID: 60173039001** Collected: 07/04/14 07:00 Received: 07/04/14 15:37 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**15.7**	mg/L	5.0	1		07/08/14 15:17		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4900**	mg/L	5.0	1		07/07/14 10:00		1e
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		07/05/14 11:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34200**	mg/L	2.0	1	07/05/14 10:36	07/10/14 14:34		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**590**	mg/L	20.0	200		07/10/14 14:11	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56600**	mg/L	5000	500		07/09/14 09:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

Sample: TRIP BLANK **Lab ID: 60173039002** Collected: 07/04/14 07:00 Received: 07/04/14 15:37 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/08/14 04:36	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 04:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 04:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 04:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 04:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 04:36	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 04:36	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 04:36	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 04:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 04:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 04:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:36	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:36	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 04:36	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 04:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 04:36	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 04:36	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 04:36	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 04:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 04:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 04:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 04:36	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		07/08/14 04:36	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/08/14 04:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		07/08/14 04:36	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 04:36		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173039001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: MERP/8570
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173039001

METHOD BLANK: 1407669 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/09/14 14:30	

LABORATORY CONTROL SAMPLE: 1407670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407671 1407672

Parameter	Units	60172911001 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	159	158	106	105	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: MPRP/27929
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173039001

METHOD BLANK: 1406676
Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 11:44	
Antimony	ug/L	ND	10.0	07/09/14 11:44	
Arsenic	ug/L	ND	10.0	07/09/14 11:44	
Beryllium	ug/L	ND	1.0	07/09/14 11:44	
Cadmium	ug/L	ND	5.0	07/09/14 11:44	
Chromium	ug/L	ND	5.0	07/09/14 11:44	
Cobalt	ug/L	ND	5.0	07/09/14 11:44	
Copper	ug/L	ND	10.0	07/09/14 11:44	
Iron	ug/L	ND	50.0	07/09/14 11:44	
Lead	ug/L	ND	5.0	07/09/14 11:44	
Nickel	ug/L	ND	5.0	07/09/14 11:44	
Selenium	ug/L	ND	15.0	07/09/14 11:44	
Silver	ug/L	ND	7.0	07/09/14 11:44	
Thallium	ug/L	ND	20.0	07/09/14 11:44	
Zinc	ug/L	ND	50.0	07/09/14 11:44	

LABORATORY CONTROL SAMPLE: 1406677

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9290	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	924	92	85-115	
Beryllium	ug/L	1000	929	93	85-115	
Cadmium	ug/L	1000	943	94	85-115	
Chromium	ug/L	1000	927	93	85-115	
Cobalt	ug/L	1000	965	97	85-115	
Copper	ug/L	1000	933	93	85-115	
Iron	ug/L	10000	9200	92	85-115	
Lead	ug/L	1000	955	96	85-115	
Nickel	ug/L	1000	965	96	85-115	
Selenium	ug/L	1000	938	94	85-115	
Silver	ug/L	500	462	92	85-115	
Thallium	ug/L	1000	952	95	85-115	
Zinc	ug/L	1000	948	95	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1406678 1406679

Parameter	Units	60172733001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	405000	10000	10000	358000	369000	-470	-366	70-130	3	8	M1
Antimony	ug/L	31.6	1000	1000	649	684	62	65	70-130	5	7	M1
Arsenic	ug/L	ND	1000	1000	908	920	90	91	70-130	1	10	
Beryllium	ug/L	2.9	1000	1000	920	928	92	92	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	920	925	92	92	70-130	1	10	
Chromium	ug/L	64.5	1000	1000	955	972	89	91	70-130	2	10	
Cobalt	ug/L	6.0	1000	1000	940	945	93	94	70-130	1	6	
Copper	ug/L	371	1000	1000	1230	1260	86	89	70-130	2	11	
Iron	ug/L	15500	10000	10000	21900	22500	64	70	70-130	3	10	M1
Lead	ug/L	374	1000	1000	1260	1290	89	91	70-130	2	10	
Nickel	ug/L	58.5	1000	1000	979	988	92	93	70-130	1	10	
Selenium	ug/L	ND	1000	1000	510	590	50	58	70-130	15	10	M1,R1
Silver	ug/L	ND	500	500	453	459	90	92	70-130	1	10	
Thallium	ug/L	ND	1000	1000	190	188	19	19	70-130	1	6	M1
Zinc	ug/L	2170	1000	1000	2950	3050	79	88	70-130	3	11	

MATRIX SPIKE SAMPLE: 1406680

Parameter	Units	60173034001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2680	50000	53900	102	70-130	
Antimony	ug/L	ND	5000	5310	105	70-130	
Arsenic	ug/L	978	5000	7060	122	70-130	
Beryllium	ug/L	ND	5000	4990	100	70-130	
Cadmium	ug/L	ND	5000	5640	113	70-130	
Chromium	ug/L	209	5000	5430	104	70-130	
Cobalt	ug/L	28.4	5000	5290	105	70-130	
Copper	ug/L	ND	5000	5520	110	70-130	
Iron	ug/L	518000	50000	678000	320	70-130	M1
Lead	ug/L	85.2	5000	5000	98	70-130	
Nickel	ug/L	95.3	5000	5280	104	70-130	
Selenium	ug/L	ND	5000	6340	126	70-130	
Silver	ug/L	ND	2500	2900	116	70-130	
Thallium	ug/L	ND	5000	4620	92	70-130	
Zinc	ug/L	6080	5000	12000	119	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: MPRP/27969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173039001

METHOD BLANK: 1407906
Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/10/14 12:58	
Antimony, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Arsenic, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Beryllium, Dissolved	ug/L	ND	1.0	07/10/14 12:58	
Cadmium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Chromium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Cobalt, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Copper, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Iron, Dissolved	ug/L	ND	50.0	07/10/14 12:58	
Lead, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Nickel, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Selenium, Dissolved	ug/L	ND	15.0	07/10/14 12:58	
Silver, Dissolved	ug/L	ND	7.0	07/10/14 12:58	
Thallium, Dissolved	ug/L	ND	20.0	07/10/14 12:58	
Zinc, Dissolved	ug/L	ND	50.0	07/10/14 12:58	

LABORATORY CONTROL SAMPLE: 1407907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9910	99	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	999	100	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	9990	100	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	1010	101	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407908 1407909

Parameter	Units	60173039001 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	1830	50000	50000	53100	52900	103	102	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5710	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6740	6880	115	118	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4810	4850	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5450	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	167	5000	5000	4880	4920	94	95	70-130	1	10	
Cobalt, Dissolved	ug/L	27.9	5000	5000	4970	4980	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5600	5620	112	112	70-130	0	11	
Iron, Dissolved	ug/L	354000	50000	50000	386000	418000	64	130	70-130	8	10	M1
Lead, Dissolved	ug/L	31.2	5000	5000	4720	4700	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	5020	5020	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6300	6410	126	128	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2710	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4300	87	86	70-130	1	6	
Zinc, Dissolved	ug/L	5600	5000	5000	10000	10400	89	97	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173039001, 60173039002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60173039001, 60173039002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: OEXT/45010
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173039001

METHOD BLANK: 1407503
Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/10/14 14:38	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/10/14 14:38	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/10/14 14:38	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/10/14 14:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/10/14 14:38	
Hexachloroethane	ug/L	ND	5.0	07/10/14 14:38	
Naphthalene	ug/L	ND	5.0	07/10/14 14:38	
Nitrobenzene	ug/L	ND	5.0	07/10/14 14:38	
Pentachlorophenol	ug/L	ND	5.0	07/10/14 14:38	
Phenol	ug/L	ND	5.0	07/10/14 14:38	
2,4,6-Tribromophenol (S)	%	75	39-120	07/10/14 14:38	
2-Fluorobiphenyl (S)	%	73	39-120	07/10/14 14:38	
2-Fluorophenol (S)	%	32	17-120	07/10/14 14:38	
Nitrobenzene-d5 (S)	%	69	33-120	07/10/14 14:38	
Phenol-d6 (S)	%	20	11-120	07/10/14 14:38	
Terphenyl-d14 (S)	%	80	45-120	07/10/14 14:38	

LABORATORY CONTROL SAMPLE: 1407504

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.7	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.9	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.7	57	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	25.0	50	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	48.9	98	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.1	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	36.3	73	43-113	
Naphthalene	ug/L	50	39.3	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	43.4	87	47-120	
Phenol	ug/L	50	12.9	26	16-112	
2,4,6-Tribromophenol (S)	%			91	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			35	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			22	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

MATRIX SPIKE SAMPLE: 1407505

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3660	73	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4370	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	2990	60	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4800	5000	6740	39	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4540J	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3390	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7380	74	11-120	
Hexachloroethane	ug/L	ND	5000	3410	68	40-113	
Naphthalene	ug/L	ND	5000	3930	76	45-120	
Nitrobenzene	ug/L	ND	5000	3880	78	38-120	
Pentachlorophenol	ug/L	ND	5000	4870	97	43-135	
Phenol	ug/L	6350	5000	6960	12	13-112	M1
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				34	17-120	
Nitrobenzene-d5 (S)	%				106	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WET/48916 — Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A — Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173039001

METHOD BLANK: 1407316 — Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WET/48917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173039001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WET/48871
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173039001

METHOD BLANK: 1406501
Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/07/14 09:57	

SAMPLE DUPLICATE: 1406502

Parameter	Units	60172919001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	224	218	3	10	

SAMPLE DUPLICATE: 1406503

Parameter	Units	60173039001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4900	4780	2	10	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WET/48861
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173039001

SAMPLE DUPLICATE: 1406356

Parameter	Units	60172589001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WET/48859
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173039001

METHOD BLANK: 1406288 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/10/14 14:12	

LABORATORY CONTROL SAMPLE: 1406289

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	201	102	85-115	

SAMPLE DUPLICATE: 1406290

Parameter	Units	60172967002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2.1	ND		17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173039001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

QC Batch: WETA/30131 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173039001

METHOD BLANK: 1406817 Matrix: Water
Associated Lab Samples: 60173039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:24	

LABORATORY CONTROL SAMPLE: 1406818

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1406819

Parameter	Units	60172784008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6350	5000	11000	94	90-110	

MATRIX SPIKE SAMPLE: 1406821

Parameter	Units	60172954001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	90.5	50	137	92	90-110	

SAMPLE DUPLICATE: 1406820

Parameter	Units	60172784010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	110	120	9	25	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-350
Pace Project No.: 60173039

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	Revised result
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 316-350
Pace Project No.: 60173039

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173039001	**316-350**	EPA 200.7	MPRP/27929	EPA 200.7	ICP/21126
60173039001	**316-350**	EPA 200.7	MPRP/27969	EPA 200.7	ICP/21142
60173039001	**316-350**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60173039001	**316-350**	EPA 245.1	MERP/8570	EPA 245.1	MERC/8525
60173039001	**316-350**	EPA 625	OEXT/45010	EPA 625	MSSV/14429
60173039001	**316-350**	EPA 624 Low	MSV/62855		
60173039002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60173039001	**316-350**	EPA 1664A	WET/48916		
60173039001	**316-350**	EPA 1664A	WET/48917		
60173039001	**316-350**	SM 2540D	WET/48871		
60173039001	**316-350**	SM 4500-H+B	WET/48861		
60173039001	**316-350**	SM 5210B	WET/48859	SM 5210B	WET/48965
60173039001	**316-350**	EPA 350.1	WETA/30176		
60173039001	**316-350**	EPA 410.4	WETA/30131		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60173039

60173039

Client Name: Barr Eng./Republic

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: 3.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: SD 7/5/14 730

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	BP2S + BP3N 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): 052914-3		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: _____ Date: 7/7/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone: (816) 285-8410	Fax
Requested Due Date/TAT:	10 Day (Default)

Section B — Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C — Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency

State / Location: Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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	316-350	OT	G	7/4/14	0700	7/4/14	0700		14	10	4	1	0																	
2	TRIP BLANK								2	2									X	X	X	X	X	X	X	X	X	X	X	
3																										X				
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

60173039

2(BP2N) (BP3N) 2(DL4N) 5(DG9H)

1(BP3S) (BP3N) 3(PL3S) 001

2(DL9H) 002

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299	Arron Weber	7-4-14	9:05		7-4-14	0905
SITE ADDRESS: BRIDGETON LF					7/4/14	1537
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)
3.0	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Arron Weber

SIGNATURE of SAMPLER: Arron Weber

DATE Signed: 7-4-14

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219

Phone: 913.599.5665
Fax: 913.599.1759

CASE NARRATIVE

Pace Project 60173034001-316-349 and 60173039001-316-350, Bridgeton Landfill

TSS batches 48870 and 48871

These batches were part of a data review performed due to a client request. It was noted during the review that the initial volumes used were not properly recorded in software that performs the final calculation. All of the initial volumes were at the default volume. The cause was a human error not caught by our peer review process. We have revised the initial volumes and revised the results accordingly. We have also addressed the process error.

The results have been revised to the following for Total Suspended Solids:

60173034001-316-349	4,760 mg/L
60173039001-316-350	4,900 mg/L

Please accept our earnest apologies for the situation. One of Pace's most fundamental values is to supply only the highest quality data possible to our clients and it is our sincere hope that this isolated incident has not diminished your faith in our abilities to do so.

Gregory A. Busch
Pace Analytical, Inc.
Lenexa-Kansas
Quality Manger

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

July 14, 2014

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

RE: Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 07, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

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
Utah Certification #: KS00021
Illinois Certification #: 003097

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173080001	**316-351**	Water	07/05/14 16:05	07/07/14 13:10
60173080002	**TRIP BLANK**	Water	07/05/14 16:05	07/07/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173080001	**316-351**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173080002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Sample: 316-351 **Lab ID: 60173080001** Collected: 07/05/14 16:05 Received: 07/07/14 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	**2710**	ug/L	750	2	07/08/14 18:00	07/09/14 13:13	7429-90-5	
Antimony	**91.1**	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:10	7440-36-0	
Arsenic	**1060**	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 18:00	07/09/14 13:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:10	7440-43-9	
Chromium	**209**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:10	7440-47-3	
Cobalt	**28.8**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:10	7440-48-4	
Copper	ND	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:10	7440-50-8	
Iron	**420000**	ug/L	250	1	07/08/14 18:00	07/09/14 13:10	7439-89-6	M1
Lead	**45.3**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:10	7439-92-1	
Nickel	**102**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 18:00	07/09/14 13:10	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 18:00	07/09/14 13:10	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 18:00	07/09/14 13:10	7440-28-0	
Zinc	**6040**	ug/L	500	2	07/08/14 18:00	07/09/14 13:13	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2070**	ug/L	750	2	07/09/14 11:45	07/10/14 13:33	7429-90-5	
Antimony, Dissolved	**68.6**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:31	7440-36-0	
Arsenic, Dissolved	**1090**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:31	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 11:45	07/10/14 13:31	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:31	7440-43-9	
Chromium, Dissolved	**180**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:31	7440-47-3	
Cobalt, Dissolved	**27.7**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:31	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:31	7440-50-8	
Iron, Dissolved	**376000**	ug/L	250	1	07/09/14 11:45	07/10/14 13:31	7439-89-6	
Lead, Dissolved	**41.1**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:31	7439-92-1	
Nickel, Dissolved	**102**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:31	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 11:45	07/10/14 13:31	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 11:45	07/10/14 13:31	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/09/14 11:45	07/10/14 13:31	7440-28-0	
Zinc, Dissolved	**6010**	ug/L	500	2	07/09/14 11:45	07/10/14 13:33	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:21	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 14:52	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/10/14 00:00	07/11/14 13:50	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/10/14 00:00	07/11/14 13:50	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6830**	ug/L	4000	2	07/10/14 00:00	07/11/14 13:50		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Sample: 316-351 **Lab ID: 60173080001** Collected: 07/05/14 16:05 Received: 07/07/14 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	07/10/14 00:00	07/11/14 13:50	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	87-86-5	
Phenol	**10300**	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 13:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	109	%	33-120	2	07/10/14 00:00	07/11/14 13:50	4165-60-0	
2-Fluorobiphenyl (S)	78	%	39-120	2	07/10/14 00:00	07/11/14 13:50	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	07/10/14 00:00	07/11/14 13:50	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	07/10/14 00:00	07/11/14 13:50	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	07/10/14 00:00	07/11/14 13:50	367-12-4	
2,4,6-Tribromophenol (S)	79	%	39-120	2	07/10/14 00:00	07/11/14 13:50	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**65000**	ug/L	2000	200		07/08/14 06:56	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 06:56	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 06:56	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 06:56	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 06:56	74-83-9	
2-Butanone (MEK)	**25900**	ug/L	2000	200		07/08/14 06:56	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 06:56	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 06:56	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 06:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 06:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 06:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:56	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 06:56	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 06:56	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 06:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 06:56	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 06:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 06:56	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 06:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 06:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 06:56	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 06:56	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 06:56	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 06:56	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		07/08/14 06:56	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		07/08/14 06:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		07/08/14 06:56	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 06:56		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**871**	mg/L	5.0	1		07/08/14 15:12		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Sample: 316-351 **Lab ID: 60173080001** Collected: 07/05/14 16:05 Received: 07/07/14 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	**15.8**	mg/L	5.0	1		07/08/14 15:18		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4860**	mg/L	5.0	1		07/08/14 10:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/09/14 11:50		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28200**	mg/L	2.0	1	07/07/14 15:31	07/12/14 10:07		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**586**	mg/L	20.0	200		07/10/14 14:12	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56100**	mg/L	5000	500		07/09/14 09:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Sample: TRIP BLANK **Lab ID: 60173080002** Collected: 07/05/14 16:05 Received: 07/07/14 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		07/08/14 04:52	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 04:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 04:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 04:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 04:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 04:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 04:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 04:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 04:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 04:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 04:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 04:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 04:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 04:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 04:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 04:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 04:52	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 04:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 04:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 04:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 04:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 04:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		07/08/14 04:52	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/08/14 04:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		07/08/14 04:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 04:52		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173080001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: MERP/8570
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173080001

METHOD BLANK: 1407669 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/09/14 14:30	

LABORATORY CONTROL SAMPLE: 1407670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407671 1407672

Parameter	Units	60172911001 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	159	158	106	105	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: MPRP/27944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173080001

METHOD BLANK: 1407304
Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 13:06	
Antimony	ug/L	ND	10.0	07/09/14 13:06	
Arsenic	ug/L	ND	10.0	07/09/14 13:06	
Beryllium	ug/L	ND	1.0	07/09/14 13:06	
Cadmium	ug/L	ND	5.0	07/09/14 13:06	
Chromium	ug/L	ND	5.0	07/09/14 13:06	
Cobalt	ug/L	ND	5.0	07/09/14 13:06	
Copper	ug/L	ND	10.0	07/09/14 13:06	
Iron	ug/L	ND	50.0	07/09/14 13:06	
Lead	ug/L	ND	5.0	07/09/14 13:06	
Nickel	ug/L	ND	5.0	07/09/14 13:06	
Selenium	ug/L	ND	15.0	07/09/14 13:06	
Silver	ug/L	ND	7.0	07/09/14 13:06	
Thallium	ug/L	ND	20.0	07/09/14 13:06	
Zinc	ug/L	ND	50.0	07/09/14 13:06	

LABORATORY CONTROL SAMPLE: 1407305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	928	93	85-115	
Beryllium	ug/L	1000	1070	107	85-115	
Cadmium	ug/L	1000	1060	106	85-115	
Chromium	ug/L	1000	1100	110	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1060	106	85-115	
Silver	ug/L	500	543	109	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	987	99	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407306 1407307

Parameter	Units	60173080001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2710	50000	50000	57000	55700	109	106	70-130	2	8	
Antimony	ug/L	91.1	5000	5000	5470	5450	108	107	70-130	0	7	
Arsenic	ug/L	1060	5000	5000	6580	6410	110	107	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	5000	4990	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5440	5440	108	108	70-130	0	10	
Chromium	ug/L	209	5000	5000	5330	5310	102	102	70-130	0	10	
Cobalt	ug/L	28.8	5000	5000	4750	4800	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5680	116	113	70-130	3	11	
Iron	ug/L	420000	50000	50000	504000	457000	168	74	70-130	10	10	M1
Lead	ug/L	45.3	5000	5000	4590	4620	91	92	70-130	1	10	
Nickel	ug/L	102	5000	5000	4880	4940	96	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6060	6000	121	120	70-130	1	10	
Silver	ug/L	ND	2500	2500	2900	2830	115	112	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4230	4340	85	87	70-130	2	6	
Zinc	ug/L	6040	5000	5000	11200	10300	103	85	70-130	9	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: MPRP/27969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173080001

METHOD BLANK: 1407906
Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/10/14 12:58	
Antimony, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Arsenic, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Beryllium, Dissolved	ug/L	ND	1.0	07/10/14 12:58	
Cadmium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Chromium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Cobalt, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Copper, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Iron, Dissolved	ug/L	ND	50.0	07/10/14 12:58	
Lead, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Nickel, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Selenium, Dissolved	ug/L	ND	15.0	07/10/14 12:58	
Silver, Dissolved	ug/L	ND	7.0	07/10/14 12:58	
Thallium, Dissolved	ug/L	ND	20.0	07/10/14 12:58	
Zinc, Dissolved	ug/L	ND	50.0	07/10/14 12:58	

LABORATORY CONTROL SAMPLE: 1407907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9910	99	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	999	100	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	9990	100	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	1010	101	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407908 1407909

Parameter	Units	60173039001 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	1830	50000	50000	53100	52900	103	102	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5710	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6740	6880	115	118	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4810	4850	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5450	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	167	5000	5000	4880	4920	94	95	70-130	1	10	
Cobalt, Dissolved	ug/L	27.9	5000	5000	4970	4980	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5600	5620	112	112	70-130	0	11	
Iron, Dissolved	ug/L	354000	50000	50000	386000	418000	64	130	70-130	8	10	M1
Lead, Dissolved	ug/L	31.2	5000	5000	4720	4700	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	5020	5020	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6300	6410	126	128	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2710	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4300	87	86	70-130	1	6	
Zinc, Dissolved	ug/L	5600	5000	5000	10000	10400	89	97	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173080001, 60173080002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60173080001, 60173080002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: OEXT/45037
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173080001

METHOD BLANK: 1408202
Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/11/14 12:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/11/14 12:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/11/14 12:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/11/14 12:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachloroethane	ug/L	ND	5.0	07/11/14 12:48	
Naphthalene	ug/L	ND	5.0	07/11/14 12:48	
Nitrobenzene	ug/L	ND	5.0	07/11/14 12:48	
Pentachlorophenol	ug/L	ND	5.0	07/11/14 12:48	
Phenol	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Tribromophenol (S)	%	85	39-120	07/11/14 12:48	
2-Fluorobiphenyl (S)	%	89	39-120	07/11/14 12:48	
2-Fluorophenol (S)	%	53	17-120	07/11/14 12:48	
Nitrobenzene-d5 (S)	%	85	33-120	07/11/14 12:48	
Phenol-d6 (S)	%	36	11-120	07/11/14 12:48	
Terphenyl-d14 (S)	%	93	45-120	07/11/14 12:48	

LABORATORY CONTROL SAMPLE: 1408203

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	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.2	70	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	48.3	97	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.5	72	24-120	
Hexachloroethane	ug/L	50	36.2	72	43-113	
Naphthalene	ug/L	50	39.9	80	48-120	
Nitrobenzene	ug/L	50	40.3	81	48-120	
Pentachlorophenol	ug/L	50	45.5	91	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

MATRIX SPIKE SAMPLE: 1408204

Parameter	Units	60173080001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3580	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4270	85	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3780	76	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6830	5000	10400	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4240J	85	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3410	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6860	69	11-120	
Hexachloroethane	ug/L	ND	5000	3540	71	40-113	
Naphthalene	ug/L	ND	5000	4080	74	45-120	
Nitrobenzene	ug/L	ND	5000	3750	75	38-120	
Pentachlorophenol	ug/L	ND	5000	4770	95	43-135	
Phenol	ug/L	10300	5000	12900	53	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WET/48916 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173080001

METHOD BLANK: 1407316 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WET/48917
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173080001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WET/48907
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173080001

METHOD BLANK: 1407010 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/08/14 10:01	

SAMPLE DUPLICATE: 1407011

Parameter	Units	60172901003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	200	210	5	10	

SAMPLE DUPLICATE: 1407012

Parameter	Units	60172963002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	8.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WET/48933
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173080001

SAMPLE DUPLICATE: 1407914

Parameter	Units	60173226001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WET/48882
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173080001

METHOD BLANK: 1406728 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/12/14 10:04	

LABORATORY CONTROL SAMPLE: 1406729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	204	103	85-115	

SAMPLE DUPLICATE: 1406730

Parameter	Units	60173081001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30500	31200	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173080001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

QC Batch: WETA/30132 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173080001

METHOD BLANK: 1406822 Matrix: Water
Associated Lab Samples: 60173080001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:46	

LABORATORY CONTROL SAMPLE: 1406823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.6	101	90-110	

MATRIX SPIKE SAMPLE: 1406824

Parameter	Units	60172715004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3460	1250	4390	74	90-110	M1

MATRIX SPIKE SAMPLE: 1406826

Parameter	Units	60173054005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	1990	2500	4170	87	90-110	M1

SAMPLE DUPLICATE: 1406825

Parameter	Units	60173080001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56100	55300	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60173080001

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

Sample: 60173080002

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

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.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

N2 The lab does not hold TNI accreditation for this parameter.

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Lenexa, KS 66219
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-351
Pace Project No.: 60173080

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173080001	**316-351**	EPA 200.7	MPRP/27944	EPA 200.7	ICP/21134
60173080001	**316-351**	EPA 200.7	MPRP/27969	EPA 200.7	ICP/21142
60173080001	**316-351**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60173080001	**316-351**	EPA 245.1	MERP/8570	EPA 245.1	MERC/8525
60173080001	**316-351**	EPA 625	OEXT/45037	EPA 625	MSSV/14434
60173080001	**316-351**	EPA 624 Low	MSV/62855		
60173080002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60173080001	**316-351**	EPA 1664A	WET/48916		
60173080001	**316-351**	EPA 1664A	WET/48917		
60173080001	**316-351**	SM 2540D	WET/48907		
60173080001	**316-351**	SM 4500-H+B	WET/48933		
60173080001	**316-351**	SM 5210B	WET/48882	SM 5210B	WET/49007
60173080001	**316-351**	EPA 350.1	WETA/30176		
60173080001	**316-351**	EPA 410.4	WETA/30132		

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Sample Condition Upon Receipt

WO#: 60173080

60173080

Client Name: Barr Engineering

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

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

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

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

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

Cooler Temperature: 7.4

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: AH 7/7

Chain of Custody present:	☑Yes ☐No ☐N/A	1. samples out of temp, ice melted
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	BP3N initial pH 4.5 added 2.5mL HNO3 final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	BP3S initial pH 4.5 added 2mL H2SO4 final pH 4.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed AH Lot # of added preservative 12513-3-2-3 12524-2-5
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 05181A-2BE2		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/7/14

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.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1661	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60173080
1	316-351 5(DG9U) 2(AG4U) 1(BP3U) 3(AG3S) 2(BP2U)	OT	G	7/5/14	1605	7/5/14	1605		14	10	4	1	10						X	X	X	X	X	X	X	X	X	X	X			4.5/4.0 4.5/4.0 1(BP3S)(BP3N)
2	TRIP BLANK 2(DG9U)								2	2																X						
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] Fol	7-7-14	8:30am	[signature] 305	7-7-14	8:30am				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	7/7	13:10	7.4	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:

SIGNATURE of SAMPLER: DATE Signed:

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

July 14, 2014

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

RE: Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 07, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

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
Utah Certification #: KS00021
Illinois Certification #: 003097

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173081001	**316-352**	Water	07/06/14 07:11	07/07/14 13:10
60173081002	**TRIP BLANK**	Water	07/06/14 07:11	07/07/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173081001	**316-352**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	NDL	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173081002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Sample: 316-352 **Lab ID: 60173081001** Collected: 07/06/14 07:11 Received: 07/07/14 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	**5570**	ug/L	750	2	07/08/14 18:00	07/09/14 13:27	7429-90-5	
Antimony	**110**	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:25	7440-36-0	
Arsenic	**1230**	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:25	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/08/14 18:00	07/09/14 13:25	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:25	7440-43-9	
Chromium	**262**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:25	7440-47-3	
Cobalt	**37.1**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:25	7440-48-4	
Copper	**51.4**	ug/L	50.0	1	07/08/14 18:00	07/09/14 13:25	7440-50-8	
Iron	**804000**	ug/L	250	1	07/08/14 18:00	07/09/14 13:25	7439-89-6	
Lead	**88.9**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:25	7439-92-1	
Nickel	**126**	ug/L	25.0	1	07/08/14 18:00	07/09/14 13:25	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/08/14 18:00	07/09/14 13:25	7782-49-2	
Silver	ND	ug/L	35.0	1	07/08/14 18:00	07/09/14 13:25	7440-22-4	
Thallium	ND	ug/L	100	1	07/08/14 18:00	07/09/14 13:25	7440-28-0	
Zinc	**6110**	ug/L	500	2	07/08/14 18:00	07/09/14 13:27	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1840**	ug/L	750	2	07/09/14 11:45	07/10/14 13:38	7429-90-5	
Antimony, Dissolved	**59.2**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:36	7440-36-0	
Arsenic, Dissolved	**1060**	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:36	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/09/14 11:45	07/10/14 13:36	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:36	7440-43-9	
Chromium, Dissolved	**179**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:36	7440-47-3	
Cobalt, Dissolved	**25.8**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:36	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/09/14 11:45	07/10/14 13:36	7440-50-8	
Iron, Dissolved	**371000**	ug/L	250	1	07/09/14 11:45	07/10/14 13:36	7439-89-6	
Lead, Dissolved	**37.8**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:36	7439-92-1	
Nickel, Dissolved	**95.1**	ug/L	25.0	1	07/09/14 11:45	07/10/14 13:36	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/09/14 11:45	07/10/14 13:36	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/09/14 11:45	07/10/14 13:36	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	07/09/14 11:45	07/10/14 13:38	7440-28-0	D3
Zinc, Dissolved	**5430**	ug/L	500	2	07/09/14 11:45	07/10/14 13:38	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 15:23	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/09/14 09:45	07/09/14 14:54	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/10/14 00:00	07/11/14 14:11	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/10/14 00:00	07/11/14 14:11	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6220**	ug/L	4000	2	07/10/14 00:00	07/11/14 14:11		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Sample: 316-352 **Lab ID: 60173081001** Collected: 07/06/14 07:11 Received: 07/07/14 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	07/10/14 00:00	07/11/14 14:11	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	87-86-5	
Phenol	**9330**	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:11	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	33-120	2	07/10/14 00:00	07/11/14 14:11	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/10/14 00:00	07/11/14 14:11	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	07/10/14 00:00	07/11/14 14:11	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	07/10/14 00:00	07/11/14 14:11	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	07/10/14 00:00	07/11/14 14:11	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	2	07/10/14 00:00	07/11/14 14:11	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**65100**	ug/L	2000	200		07/08/14 07:12	67-64-1	N2
Benzene	ND	ug/L	200	200		07/08/14 07:12	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/08/14 07:12	75-27-4	
Bromoform	ND	ug/L	200	200		07/08/14 07:12	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/08/14 07:12	74-83-9	
2-Butanone (MEK)	**26300**	ug/L	2000	200		07/08/14 07:12	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/08/14 07:12	56-23-5	
Chloroethane	ND	ug/L	200	200		07/08/14 07:12	75-00-3	
Chloroform	ND	ug/L	200	200		07/08/14 07:12	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/08/14 07:12	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/08/14 07:12	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 07:12	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/08/14 07:12	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/08/14 07:12	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/08/14 07:12	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/08/14 07:12	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/08/14 07:12	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/08/14 07:12	127-18-4	
Toluene	ND	ug/L	200	200		07/08/14 07:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/08/14 07:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/08/14 07:12	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/08/14 07:12	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/08/14 07:12	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/08/14 07:12	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/08/14 07:12	460-00-4	
Toluene-d8 (S)	94	%	80-120	200		07/08/14 07:12	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		07/08/14 07:12	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/08/14 07:12		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**532**	mg/L	5.0	1		07/08/14 15:12		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Sample: 316-352 **Lab ID: 60173081001** Collected: 07/06/14 07:11 Received: 07/07/14 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	**15.0**	mg/L	5.0	1		07/08/14 15:18		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4560**	mg/L	5.0	1		07/08/14 10:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/09/14 11:50		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30500**	mg/L	2.0	1	07/07/14 15:36	07/12/14 10:09		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**582**	mg/L	20.0	200		07/10/14 14:13	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54800**	mg/L	5000	500		07/09/14 09:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Sample: TRIP BLANK **Lab ID: 60173081002** Collected: 07/06/14 07:11 Received: 07/07/14 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		07/08/14 05:07	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/08/14 05:07	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/08/14 05:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/08/14 05:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/08/14 05:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/08/14 05:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/08/14 05:07	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/08/14 05:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/08/14 05:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/08/14 05:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/08/14 05:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 05:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/08/14 05:07	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/08/14 05:07	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/08/14 05:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/08/14 05:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/08/14 05:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/08/14 05:07	127-18-4	
Toluene	ND	ug/L	1.0	1		07/08/14 05:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/08/14 05:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/08/14 05:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/08/14 05:07	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/08/14 05:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/08/14 05:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/08/14 05:07	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/08/14 05:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		07/08/14 05:07	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/08/14 05:07		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: MERP/8571
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173081001

METHOD BLANK: 1407673 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/09/14 14:57	

LABORATORY CONTROL SAMPLE: 1407674

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407675 1407676

Parameter	Units	60172794001 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	157	146	102	95	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: MERP/8570
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173081001

METHOD BLANK: 1407669 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/09/14 14:30	

LABORATORY CONTROL SAMPLE: 1407670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.7	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407671 1407672

Parameter	Units	60172911001 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	159	158	106	105	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: MPRP/27944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173081001

METHOD BLANK: 1407304
Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/09/14 13:06	
Antimony	ug/L	ND	10.0	07/09/14 13:06	
Arsenic	ug/L	ND	10.0	07/09/14 13:06	
Beryllium	ug/L	ND	1.0	07/09/14 13:06	
Cadmium	ug/L	ND	5.0	07/09/14 13:06	
Chromium	ug/L	ND	5.0	07/09/14 13:06	
Cobalt	ug/L	ND	5.0	07/09/14 13:06	
Copper	ug/L	ND	10.0	07/09/14 13:06	
Iron	ug/L	ND	50.0	07/09/14 13:06	
Lead	ug/L	ND	5.0	07/09/14 13:06	
Nickel	ug/L	ND	5.0	07/09/14 13:06	
Selenium	ug/L	ND	15.0	07/09/14 13:06	
Silver	ug/L	ND	7.0	07/09/14 13:06	
Thallium	ug/L	ND	20.0	07/09/14 13:06	
Zinc	ug/L	ND	50.0	07/09/14 13:06	

LABORATORY CONTROL SAMPLE: 1407305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	928	93	85-115	
Beryllium	ug/L	1000	1070	107	85-115	
Cadmium	ug/L	1000	1060	106	85-115	
Chromium	ug/L	1000	1100	110	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1060	106	85-115	
Silver	ug/L	500	543	109	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	987	99	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407306 1407307

Parameter	Units	60173080001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2710	50000	50000	57000	55700	109	106	70-130	2	8	
Antimony	ug/L	91.1	5000	5000	5470	5450	108	107	70-130	0	7	
Arsenic	ug/L	1060	5000	5000	6580	6410	110	107	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	5000	4990	100	100	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5440	5440	108	108	70-130	0	10	
Chromium	ug/L	209	5000	5000	5330	5310	102	102	70-130	0	10	
Cobalt	ug/L	28.8	5000	5000	4750	4800	94	95	70-130	1	6	
Copper	ug/L	ND	5000	5000	5840	5680	116	113	70-130	3	11	
Iron	ug/L	420000	50000	50000	504000	457000	168	74	70-130	10	10	M1
Lead	ug/L	45.3	5000	5000	4590	4620	91	92	70-130	1	10	
Nickel	ug/L	102	5000	5000	4880	4940	96	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6060	6000	121	120	70-130	1	10	
Silver	ug/L	ND	2500	2500	2900	2830	115	112	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4230	4340	85	87	70-130	2	6	
Zinc	ug/L	6040	5000	5000	11200	10300	103	85	70-130	9	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: MPRP/27969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173081001

METHOD BLANK: 1407906
Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/10/14 12:58	
Antimony, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Arsenic, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Beryllium, Dissolved	ug/L	ND	1.0	07/10/14 12:58	
Cadmium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Chromium, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Cobalt, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Copper, Dissolved	ug/L	ND	10.0	07/10/14 12:58	
Iron, Dissolved	ug/L	ND	50.0	07/10/14 12:58	
Lead, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Nickel, Dissolved	ug/L	ND	5.0	07/10/14 12:58	
Selenium, Dissolved	ug/L	ND	15.0	07/10/14 12:58	
Silver, Dissolved	ug/L	ND	7.0	07/10/14 12:58	
Thallium, Dissolved	ug/L	ND	20.0	07/10/14 12:58	
Zinc, Dissolved	ug/L	ND	50.0	07/10/14 12:58	

LABORATORY CONTROL SAMPLE: 1407907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9910	99	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	999	100	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	9990	100	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	1010	101	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1407908 1407909

Parameter	Units	60173039001 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	1830	50000	50000	53100	52900	103	102	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5710	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	980	5000	5000	6740	6880	115	118	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4810	4850	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5450	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	167	5000	5000	4880	4920	94	95	70-130	1	10	
Cobalt, Dissolved	ug/L	27.9	5000	5000	4970	4980	99	99	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5600	5620	112	112	70-130	0	11	
Iron, Dissolved	ug/L	354000	50000	50000	386000	418000	64	130	70-130	8	10	M1
Lead, Dissolved	ug/L	31.2	5000	5000	4720	4700	94	93	70-130	0	10	
Nickel, Dissolved	ug/L	91.4	5000	5000	5020	5020	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6300	6410	126	128	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2710	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4300	87	86	70-130	1	6	
Zinc, Dissolved	ug/L	5600	5000	5000	10000	10400	89	97	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: MSV/62855 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173081001, 60173081002

METHOD BLANK: 1406693 Matrix: Water
Associated Lab Samples: 60173081001, 60173081002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/08/14 03:19	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,2-Dichloroethane	ug/L	ND	1.0	07/08/14 03:19	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/08/14 03:19	
2-Butanone (MEK)	ug/L	ND	10.0	07/08/14 03:19	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/08/14 03:19	N2
Acetone	ug/L	ND	10.0	07/08/14 03:19	N2
Benzene	ug/L	ND	1.0	07/08/14 03:19	
Bromodichloromethane	ug/L	ND	1.0	07/08/14 03:19	
Bromoform	ug/L	ND	1.0	07/08/14 03:19	
Bromomethane	ug/L	ND	5.0	07/08/14 03:19	
Carbon tetrachloride	ug/L	ND	1.0	07/08/14 03:19	
Chloroethane	ug/L	ND	1.0	07/08/14 03:19	
Chloroform	ug/L	ND	1.0	07/08/14 03:19	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	N2
Ethylbenzene	ug/L	ND	1.0	07/08/14 03:19	
Methylene chloride	ug/L	ND	1.0	07/08/14 03:19	
Tetrachloroethene	ug/L	ND	1.0	07/08/14 03:19	
Toluene	ug/L	ND	1.0	07/08/14 03:19	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Trichloroethene	ug/L	ND	1.0	07/08/14 03:19	
Vinyl chloride	ug/L	ND	1.0	07/08/14 03:19	
Xylene (Total)	ug/L	ND	3.0	07/08/14 03:19	N2
1,2-Dichloroethane-d4 (S)	%	109	80-120	07/08/14 03:19	
4-Bromofluorobenzene (S)	%	99	80-120	07/08/14 03:19	
Toluene-d8 (S)	%	102	80-120	07/08/14 03:19	

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.3	111	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.9	110	67-127	N2
1,1,2-Trichloroethane	ug/L	20	22.3	112	67-124	
1,2-Dichloroethane	ug/L	20	23.1	115	70-126	
1,4-Dichlorobenzene	ug/L	20	21.2	106	74-120	
2-Butanone (MEK)	ug/L	100	110	110	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	130	130	59-131	N2
Acetone	ug/L	100	104	104	38-134	N2
Benzene	ug/L	20	21.7	108	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

LABORATORY CONTROL SAMPLE: 1406694

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	23.2	116	68-125	
Bromoform	ug/L	20	20.9	104	65-127	
Bromomethane	ug/L	20	21.5	108	13-157	
Carbon tetrachloride	ug/L	20	21.5	107	70-131	
Chloroethane	ug/L	20	21.8	109	47-133	
Chloroform	ug/L	20	22.4	112	65-127	
cis-1,2-Dichloroethene	ug/L	20	22.0	110	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	20.5	102	73-125	
Toluene	ug/L	20	20.3	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	66-129	
Trichloroethene	ug/L	20	24.3	121	71-123	
Vinyl chloride	ug/L	20	19.8	99	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			105	80-120	

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3770	94	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4190	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3780	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3690	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	94	33-140	
2-Butanone (MEK)	ug/L	31800	20000	49100	87	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21200	104	40-160	N2
Acetone	ug/L	74400	20000	90900	82	10-160	N2
Benzene	ug/L	ND	4000	3560	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3730	93	35-142	
Bromoform	ug/L	ND	4000	3540	88	45-142	
Bromomethane	ug/L	ND	4000	3530	88	10-158	
Carbon tetrachloride	ug/L	ND	4000	3790	95	70-140	
Chloroethane	ug/L	ND	4000	3500	87	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3600	90	34-147	N2
Ethylbenzene	ug/L	ND	4000	3650	91	40-142	
Methylene chloride	ug/L	ND	4000	3210	79	31-144	
Tetrachloroethene	ug/L	ND	4000	3630	91	64-148	
Toluene	ug/L	ND	4000	3340	82	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3630	91	71-149	
Vinyl chloride	ug/L	ND	4000	3480	87	22-146	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

MATRIX SPIKE SAMPLE: 1406695

Parameter	Units	60172794001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11100	92	37-144	N2
1,2-Dichloroethane-d4 (S)	%				104	80-120	
4-Bromofluorobenzene (S)	%				96	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: OEXT/45037
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173081001

METHOD BLANK: 1408202
Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/11/14 12:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/11/14 12:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/11/14 12:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/11/14 12:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachloroethane	ug/L	ND	5.0	07/11/14 12:48	
Naphthalene	ug/L	ND	5.0	07/11/14 12:48	
Nitrobenzene	ug/L	ND	5.0	07/11/14 12:48	
Pentachlorophenol	ug/L	ND	5.0	07/11/14 12:48	
Phenol	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Tribromophenol (S)	%	85	39-120	07/11/14 12:48	
2-Fluorobiphenyl (S)	%	89	39-120	07/11/14 12:48	
2-Fluorophenol (S)	%	53	17-120	07/11/14 12:48	
Nitrobenzene-d5 (S)	%	85	33-120	07/11/14 12:48	
Phenol-d6 (S)	%	36	11-120	07/11/14 12:48	
Terphenyl-d14 (S)	%	93	45-120	07/11/14 12:48	

LABORATORY CONTROL SAMPLE: 1408203

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	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.2	70	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	48.3	97	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.5	72	24-120	
Hexachloroethane	ug/L	50	36.2	72	43-113	
Naphthalene	ug/L	50	39.9	80	48-120	
Nitrobenzene	ug/L	50	40.3	81	48-120	
Pentachlorophenol	ug/L	50	45.5	91	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

MATRIX SPIKE SAMPLE: 1408204

Parameter	Units	60173080001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3580	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4270	85	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3780	76	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6830	5000	10400	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4240J	85	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3410	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6860	69	11-120	
Hexachloroethane	ug/L	ND	5000	3540	71	40-113	
Naphthalene	ug/L	ND	5000	4080	74	45-120	
Nitrobenzene	ug/L	ND	5000	3750	75	38-120	
Pentachlorophenol	ug/L	ND	5000	4770	95	43-135	
Phenol	ug/L	10300	5000	12900	53	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WET/48916 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173081001

METHOD BLANK: 1407316 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1407317

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.3	86	78-114	

MATRIX SPIKE SAMPLE: 1407318

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	684	167	854	102	78-114	

SAMPLE DUPLICATE: 1407319

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	688	362	62	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WET/48917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173081001

METHOD BLANK: 1407322 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/08/14 15:15	

LABORATORY CONTROL SAMPLE: 1407323

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

MATRIX SPIKE SAMPLE: 1407324

Parameter	Units	60172910001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.7	83.3	57.5	55	64-132	M1

SAMPLE DUPLICATE: 1407325

Parameter	Units	60172911001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.0	11.6	43	34	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WET/48908
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173081001

METHOD BLANK: 1407013
Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/08/14 10:08	

SAMPLE DUPLICATE: 1407014

Parameter	Units	60173068001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	6.0	15	10	D6

SAMPLE DUPLICATE: 1407015

Parameter	Units	60173083002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WET/48933
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173081001

SAMPLE DUPLICATE: 1407914

Parameter	Units	60173226001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.9	8.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WET/48882 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173081001

METHOD BLANK: 1406728 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/12/14 10:04	

LABORATORY CONTROL SAMPLE: 1406729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	204	103	85-115	

SAMPLE DUPLICATE: 1406730

Parameter	Units	60173081001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30500	31200	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173081001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

QC Batch: WETA/30132 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173081001

METHOD BLANK: 1406822 Matrix: Water
Associated Lab Samples: 60173081001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/09/14 09:46	

LABORATORY CONTROL SAMPLE: 1406823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.6	101	90-110	

MATRIX SPIKE SAMPLE: 1406824

Parameter	Units	60172715004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3460	1250	4390	74	90-110	M1

MATRIX SPIKE SAMPLE: 1406826

Parameter	Units	60173054005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	1990	2500	4170	87	90-110	M1

SAMPLE DUPLICATE: 1406825

Parameter	Units	60173080001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56100	55300	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

LOD - Limit of Detection.

LOQ - Limit of Quantitation.

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-352
Pace Project No.: 60173081

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173081001	**316-352**	EPA 200.7	MPRP/27944	EPA 200.7	ICP/21134
60173081001	**316-352**	EPA 200.7	MPRP/27969	EPA 200.7	ICP/21142
60173081001	**316-352**	EPA 245.1	MERP/8571	EPA 245.1	MERC/8526
60173081001	**316-352**	EPA 245.1	MERP/8570	EPA 245.1	MERC/8525
60173081001	**316-352**	EPA 625	OEXT/45037	EPA 625	MSSV/14434
60173081001	**316-352**	EPA 624 Low	MSV/62855		
60173081002	**TRIP BLANK**	EPA 624 Low	MSV/62855		
60173081001	**316-352**	EPA 1664A	WET/48916		
60173081001	**316-352**	EPA 1664A	WET/48917		
60173081001	**316-352**	SM 2540D	WET/48908		
60173081001	**316-352**	SM 4500-H+B	WET/48933		
60173081001	**316-352**	SM 5210B	WET/48882	SM 5210B	WET/49007
60173081001	**316-352**	EPA 350.1	WETA/30176		
60173081001	**316-352**	EPA 410.4	WETA/30132		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60173081

60173081

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 7/7

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	DP3S initial pH 5.0 added 1mL Final pH 4.5 DP3N initial pH 6.0 added 2.5mL Final pH 5.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 6/27/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MD

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/8/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017308 4.5 5.5
1	(5)DG4U 316-352 (2)AG4U (3)AG3S	OT	G	7/6/14	0711	—	—		~~14~~ 15	10	4	1	0	(2)BP2U			BP3U		X	X	X	X	X	X	X	X	X	X	X		BP35	BP3N 01
2	TRIP BLANK (2)DG4U	—		—	—	—	—		2	2																X						02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FOT	7-7-14	8:30am	[signature]	7-7-14	8:30am				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	7/7	1310	4.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/6/14

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

July 16, 2014

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

RE: Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173194001	**316-353**	Water	07/07/14 07:05	07/09/14 02:15
60173194002	**TRIP BLANK**	Water	07/07/14 07:05	07/09/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173194001	**316-353**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	JMC1	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173194002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Date: July 16, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Sample: 316-353 **Lab ID: 60173194001** Collected: 07/07/14 07:05 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4480**	ug/L	750	2	07/10/14 11:00	07/11/14 13:54	7429-90-5	M1
Antimony	**59.9**	ug/L	50.0	1	07/10/14 11:00	07/11/14 13:52	7440-36-0	
Arsenic	**1140**	ug/L	50.0	1	07/10/14 11:00	07/11/14 13:52	7440-38-2	M1
Beryllium	ND	ug/L	5.0	1	07/10/14 11:00	07/11/14 13:52	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/10/14 11:00	07/11/14 13:52	7440-43-9	
Chromium	**211**	ug/L	25.0	1	07/10/14 11:00	07/11/14 13:52	7440-47-3	
Cobalt	**34.2**	ug/L	25.0	1	07/10/14 11:00	07/11/14 13:52	7440-48-4	
Copper	ND	ug/L	50.0	1	07/10/14 11:00	07/11/14 13:52	7440-50-8	
Iron	**712000**	ug/L	250	1	07/10/14 11:00	07/11/14 13:52	7439-89-6	M1
Lead	**111**	ug/L	25.0	1	07/10/14 11:00	07/11/14 13:52	7439-92-1	
Nickel	**113**	ug/L	25.0	1	07/10/14 11:00	07/11/14 13:52	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/10/14 11:00	07/11/14 13:52	7782-49-2	
Silver	ND	ug/L	35.0	1	07/10/14 11:00	07/11/14 13:52	7440-22-4	
Thallium	ND	ug/L	100	1	07/10/14 11:00	07/11/14 13:52	7440-28-0	
Zinc	**5020**	ug/L	500	2	07/10/14 11:00	07/11/14 13:54	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2110**	ug/L	750	2	07/11/14 10:20	07/14/14 11:01	7429-90-5	
Antimony, Dissolved	**83.1**	ug/L	50.0	1	07/11/14 10:20	07/14/14 10:58	7440-36-0	D9
Arsenic, Dissolved	**1070**	ug/L	50.0	1	07/11/14 10:20	07/14/14 10:58	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/11/14 10:20	07/14/14 10:58	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/11/14 10:20	07/14/14 10:58	7440-43-9	
Chromium, Dissolved	**190**	ug/L	25.0	1	07/11/14 10:20	07/14/14 10:58	7440-47-3	
Cobalt, Dissolved	**27.0**	ug/L	25.0	1	07/11/14 10:20	07/14/14 10:58	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/11/14 10:20	07/14/14 10:58	7440-50-8	
Iron, Dissolved	**428000**	ug/L	250	1	07/11/14 10:20	07/14/14 10:58	7439-89-6	M1
Lead, Dissolved	**31.4**	ug/L	25.0	1	07/11/14 10:20	07/14/14 10:58	7439-92-1	
Nickel, Dissolved	**91.5**	ug/L	25.0	1	07/11/14 10:20	07/14/14 10:58	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/11/14 10:20	07/14/14 10:58	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/11/14 10:20	07/14/14 10:58	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	07/11/14 10:20	07/14/14 11:01	7440-28-0	D3
Zinc, Dissolved	**5310**	ug/L	500	2	07/11/14 10:20	07/14/14 11:01	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/10/14 16:30	07/11/14 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	07/10/14 16:30	07/11/14 10:49	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/10/14 00:00	07/11/14 14:32	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/10/14 00:00	07/11/14 14:32	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7130**	ug/L	4000	2	07/10/14 00:00	07/11/14 14:32		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Sample: 316-353 **Lab ID: 60173194001** Collected: 07/07/14 07:05 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	87-86-5	
Phenol	**10400**	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:32	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	33-120	2	07/10/14 00:00	07/11/14 14:32	4165-60-0	
2-Fluorobiphenyl (S)	75	%	39-120	2	07/10/14 00:00	07/11/14 14:32	321-60-8	
Terphenyl-d14 (S)	75	%	45-120	2	07/10/14 00:00	07/11/14 14:32	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	07/10/14 00:00	07/11/14 14:32	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	07/10/14 00:00	07/11/14 14:32	367-12-4	
2,4,6-Tribromophenol (S)	77	%	39-120	2	07/10/14 00:00	07/11/14 14:32	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**73900**	ug/L	2000	200		07/11/14 13:07	67-64-1	N2
Benzene	ND	ug/L	200	200		07/11/14 13:07	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/11/14 13:07	75-27-4	
Bromoform	ND	ug/L	200	200		07/11/14 13:07	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/11/14 13:07	74-83-9	
2-Butanone (MEK)	**27600**	ug/L	2000	200		07/11/14 13:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/11/14 13:07	56-23-5	
Chloroethane	ND	ug/L	200	200		07/11/14 13:07	75-00-3	
Chloroform	ND	ug/L	200	200		07/11/14 13:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/11/14 13:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/11/14 13:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/11/14 13:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/11/14 13:07	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/11/14 13:07	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/11/14 13:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/11/14 13:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/11/14 13:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/11/14 13:07	127-18-4	
Toluene	ND	ug/L	200	200		07/11/14 13:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/11/14 13:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/11/14 13:07	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/11/14 13:07	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/11/14 13:07	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/11/14 13:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/11/14 13:07	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		07/11/14 13:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/11/14 13:07	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/11/14 13:07		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**845**	mg/L	5.0	1		07/14/14 08:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Sample: 316-353 **Lab ID: 60173194001** Collected: 07/07/14 07:05 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		07/14/14 08:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4080**	mg/L	5.0	1		07/10/14 13:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		07/10/14 09:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**37900**	mg/L	2.0	1	07/09/14 15:13	07/14/14 11:34		H2
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**576**	mg/L	20.0	200		07/10/14 14:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55200**	mg/L	5000	500		07/12/14 10:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Sample: TRIP BLANK **Lab ID: 60173194002** Collected: 07/07/14 07:05 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/11/14 12:36	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/11/14 12:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/11/14 12:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/11/14 12:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/11/14 12:36	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/11/14 12:36	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/11/14 12:36	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/11/14 12:36	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/11/14 12:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/11/14 12:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/11/14 12:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/11/14 12:36	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/11/14 12:36	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/11/14 12:36	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/11/14 12:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/11/14 12:36	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/11/14 12:36	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/11/14 12:36	127-18-4	
Toluene	ND	ug/L	1.0	1		07/11/14 12:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/11/14 12:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/11/14 12:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/11/14 12:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/11/14 12:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/11/14 12:36	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/11/14 12:36	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		07/11/14 12:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/11/14 12:36	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/11/14 12:36		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: MERP/8580
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173194001

METHOD BLANK: 1408770 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/11/14 10:15	

LABORATORY CONTROL SAMPLE: 1408771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408772 1408773

Parameter	Units	60173194001 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	122	135	81	90	70-130	10	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: MERP/8581
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173194001

METHOD BLANK: 1408774 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/11/14 10:44	

LABORATORY CONTROL SAMPLE: 1408775

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408776 1408777

Parameter	Units	60173194001 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	139	145	92	97	70-130	5	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: MPRP/27978
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173194001

METHOD BLANK: 1408057
Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/11/14 13:47	
Antimony	ug/L	ND	10.0	07/11/14 13:47	
Arsenic	ug/L	ND	10.0	07/11/14 13:47	
Beryllium	ug/L	ND	1.0	07/11/14 13:47	
Cadmium	ug/L	ND	5.0	07/11/14 13:47	
Chromium	ug/L	ND	5.0	07/11/14 13:47	
Cobalt	ug/L	ND	5.0	07/11/14 13:47	
Copper	ug/L	ND	10.0	07/11/14 13:47	
Iron	ug/L	ND	50.0	07/11/14 13:47	
Lead	ug/L	ND	5.0	07/11/14 13:47	
Nickel	ug/L	ND	5.0	07/11/14 13:47	
Selenium	ug/L	ND	15.0	07/11/14 13:47	
Silver	ug/L	ND	7.0	07/11/14 13:47	
Thallium	ug/L	ND	20.0	07/11/14 13:47	
Zinc	ug/L	ND	50.0	07/11/14 13:47	

LABORATORY CONTROL SAMPLE: 1408058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9550	95	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	955	95	85-115	
Cadmium	ug/L	1000	963	96	85-115	
Chromium	ug/L	1000	951	95	85-115	
Cobalt	ug/L	1000	989	99	85-115	
Copper	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	9310	93	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	991	99	85-115	
Selenium	ug/L	1000	975	98	85-115	
Silver	ug/L	500	476	95	85-115	
Thallium	ug/L	1000	999	100	85-115	
Zinc	ug/L	1000	932	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408059 1408060

Parameter	Units	60173194001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4480	10000	10000	11200	11300	68	69	70-130	1	8	M1
Antimony	ug/L	59.9	1000	1000	1120	1090	107	103	70-130	3	7	
Arsenic	ug/L	1140	1000	1000	1410	1370	27	23	70-130	3	10	M1
Beryllium	ug/L	ND	1000	1000	954	958	95	96	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1070	1050	107	104	70-130	2	10	
Chromium	ug/L	211	1000	1000	982	1000	77	79	70-130	2	10	
Cobalt	ug/L	34.2	1000	1000	976	967	94	93	70-130	1	6	
Copper	ug/L	ND	1000	1000	1130	1050	111	104	70-130	7	11	
Iron	ug/L	712000	10000	10000	165000	179000	-5466	-5331	70-130	8	10	M1
Lead	ug/L	111	1000	1000	925	923	81	81	70-130	0	10	
Nickel	ug/L	113	1000	1000	981	971	87	86	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1270	1220	127	122	70-130	4	10	
Silver	ug/L	ND	500	500	538	523	104	101	70-130	3	10	
Thallium	ug/L	ND	1000	1000	844	833	84	83	70-130	1	6	
Zinc	ug/L	5020	1000	1000	1950	1980	-307	-304	70-130	2	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: MPRP/28006
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173194001

METHOD BLANK: 1409026
Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/14/14 10:56	
Antimony, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Arsenic, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Beryllium, Dissolved	ug/L	ND	1.0	07/14/14 10:56	
Cadmium, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Chromium, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Cobalt, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Copper, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Iron, Dissolved	ug/L	ND	50.0	07/14/14 10:56	
Lead, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Nickel, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Selenium, Dissolved	ug/L	ND	15.0	07/14/14 10:56	
Silver, Dissolved	ug/L	ND	7.0	07/14/14 10:56	
Thallium, Dissolved	ug/L	ND	20.0	07/14/14 10:56	
Zinc, Dissolved	ug/L	ND	50.0	07/14/14 10:56	

LABORATORY CONTROL SAMPLE: 1409027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9770	98	85-115	
Antimony, Dissolved	ug/L	1000	992	99	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	986	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	961	96	85-115	
Iron, Dissolved	ug/L	10000	10100	101	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	483	97	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409028 1409029

Parameter	Units	60173194001 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	2110	50000	50000	54700	52600	105	101	70-130	4	8	
Antimony, Dissolved	ug/L	83.1	5000	5000	5430	5410	107	107	70-130	0	7	
Arsenic, Dissolved	ug/L	1070	5000	5000	6580	6610	110	111	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4780	4820	96	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5230	105	104	70-130	0	10	
Chromium, Dissolved	ug/L	190	5000	5000	4900	4860	94	93	70-130	1	10	
Cobalt, Dissolved	ug/L	27.0	5000	5000	4840	4850	96	96	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5240	5300	104	106	70-130	1	11	
Iron, Dissolved	ug/L	428000	50000	50000	458000	452000	60	48	70-130	1	10	M1
Lead, Dissolved	ug/L	31.4	5000	5000	4580	4570	91	91	70-130	0	10	
Nickel, Dissolved	ug/L	91.5	5000	5000	4850	4870	95	96	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6040	6030	120	120	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2600	2600	103	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4500	93	90	70-130	3	6	
Zinc, Dissolved	ug/L	5310	5000	5000	10400	9940	102	93	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: MSV/62934 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173194001, 60173194002

METHOD BLANK: 1408809 Matrix: Water
Associated Lab Samples: 60173194001, 60173194002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/11/14 11:34	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,2-Dichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/11/14 11:34	
2-Butanone (MEK)	ug/L	ND	10.0	07/11/14 11:34	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/11/14 11:34	N2
Acetone	ug/L	ND	10.0	07/11/14 11:34	N2
Benzene	ug/L	ND	1.0	07/11/14 11:34	
Bromodichloromethane	ug/L	ND	1.0	07/11/14 11:34	
Bromoform	ug/L	ND	1.0	07/11/14 11:34	
Bromomethane	ug/L	ND	5.0	07/11/14 11:34	
Carbon tetrachloride	ug/L	ND	1.0	07/11/14 11:34	
Chloroethane	ug/L	ND	1.0	07/11/14 11:34	
Chloroform	ug/L	ND	1.0	07/11/14 11:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/11/14 11:34	N2
Ethylbenzene	ug/L	ND	1.0	07/11/14 11:34	
Methylene chloride	ug/L	ND	1.0	07/11/14 11:34	
Tetrachloroethene	ug/L	ND	1.0	07/11/14 11:34	
Toluene	ug/L	ND	1.0	07/11/14 11:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/11/14 11:34	
Trichloroethene	ug/L	ND	1.0	07/11/14 11:34	
Vinyl chloride	ug/L	ND	1.0	07/11/14 11:34	
Xylene (Total)	ug/L	ND	3.0	07/11/14 11:34	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/11/14 11:34	
4-Bromofluorobenzene (S)	%	97	80-120	07/11/14 11:34	
Toluene-d8 (S)	%	102	80-120	07/11/14 11:34	

LABORATORY CONTROL SAMPLE: 1408810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.7	104	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	82.2	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.6	92	59-131	N2
Acetone	ug/L	100	82.5	83	38-134	N2
Benzene	ug/L	20	17.8	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

LABORATORY CONTROL SAMPLE: 1408810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	99	68-125	
Bromoform	ug/L	20	21.8	109	65-127	
Bromomethane	ug/L	20	22.5	113	13-157	
Carbon tetrachloride	ug/L	20	18.2	91	70-131	
Chloroethane	ug/L	20	17.6	88	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.3	91	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	17.4	87	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.1	91	66-129	
Trichloroethene	ug/L	20	19.0	95	71-123	
Vinyl chloride	ug/L	20	16.8	84	43-129	
Xylene (Total)	ug/L	60	59.5	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1408811

Parameter	Units	60173194001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4040	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3720	89	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3810	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3710	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3880	93	33-140	
2-Butanone (MEK)	ug/L	27600	20000	41500	69	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17600	84	40-160	N2
Acetone	ug/L	73900	20000	84300	52	10-160	N2
Benzene	ug/L	ND	4000	3660	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	93	35-142	
Bromoform	ug/L	ND	4000	4010	98	45-142	
Bromomethane	ug/L	ND	4000	4330	102	10-158	
Carbon tetrachloride	ug/L	ND	4000	4210	101	70-140	
Chloroethane	ug/L	ND	4000	3800	91	19-152	
Chloroform	ug/L	ND	4000	3740	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3630	87	34-147	N2
Ethylbenzene	ug/L	ND	4000	4130	99	40-142	
Methylene chloride	ug/L	ND	4000	3500	83	31-144	
Tetrachloroethene	ug/L	ND	4000	4170	100	64-148	
Toluene	ug/L	ND	4000	3810	91	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3900	94	54-151	
Trichloroethene	ug/L	ND	4000	3910	94	71-149	
Vinyl chloride	ug/L	ND	4000	3740	90	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

MATRIX SPIKE SAMPLE: 1408811

Parameter	Units	60173194001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: OEXT/45037 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60173194001

METHOD BLANK: 1408202 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/11/14 12:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/11/14 12:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/11/14 12:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/11/14 12:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachloroethane	ug/L	ND	5.0	07/11/14 12:48	
Naphthalene	ug/L	ND	5.0	07/11/14 12:48	
Nitrobenzene	ug/L	ND	5.0	07/11/14 12:48	
Pentachlorophenol	ug/L	ND	5.0	07/11/14 12:48	
Phenol	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Tribromophenol (S)	%	85	39-120	07/11/14 12:48	
2-Fluorobiphenyl (S)	%	89	39-120	07/11/14 12:48	
2-Fluorophenol (S)	%	53	17-120	07/11/14 12:48	
Nitrobenzene-d5 (S)	%	85	33-120	07/11/14 12:48	
Phenol-d6 (S)	%	36	11-120	07/11/14 12:48	
Terphenyl-d14 (S)	%	93	45-120	07/11/14 12:48	

LABORATORY CONTROL SAMPLE: 1408203

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	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.2	70	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	48.3	97	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.5	72	24-120	
Hexachloroethane	ug/L	50	36.2	72	43-113	
Naphthalene	ug/L	50	39.9	80	48-120	
Nitrobenzene	ug/L	50	40.3	81	48-120	
Pentachlorophenol	ug/L	50	45.5	91	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

MATRIX SPIKE SAMPLE: 1408204

Parameter	Units	60173080001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3580	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4270	85	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3780	76	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6830	5000	10400	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4240J	85	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3410	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6860	69	11-120	
Hexachloroethane	ug/L	ND	5000	3540	71	40-113	
Naphthalene	ug/L	ND	5000	4080	74	45-120	
Nitrobenzene	ug/L	ND	5000	3750	75	38-120	
Pentachlorophenol	ug/L	ND	5000	4770	95	43-135	
Phenol	ug/L	10300	5000	12900	53	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WET/48997
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173194001

METHOD BLANK: 1409879 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/14/14 08:43	

LABORATORY CONTROL SAMPLE: 1409880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.2	93	78-114	

MATRIX SPIKE SAMPLE: 1409881

Parameter	Units	60172879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43	38.2	86	78-114	

SAMPLE DUPLICATE: 1409897

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	845	938	10	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WET/48999
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173194001

METHOD BLANK: 1409893
Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/14/14 08:50	

LABORATORY CONTROL SAMPLE: 1409894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.5	118	64-132	

MATRIX SPIKE SAMPLE: 1409896

Parameter	Units	60172879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.5	15.6	67	64-132	

SAMPLE DUPLICATE: 1409895

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	10.0	4	34	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WET/48957
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173194001

METHOD BLANK: 1408455
Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/10/14 13:05	

SAMPLE DUPLICATE: 1408456

Parameter	Units	60173170001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	13.0	7	10	

SAMPLE DUPLICATE: 1408457

Parameter	Units	10273104003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2320	1890	20	10	D6

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WET/48949
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173194001

SAMPLE DUPLICATE: 1408292

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.2	5.2	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WET/48936 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173194001

METHOD BLANK: 1408030 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/14/14 11:31	

LABORATORY CONTROL SAMPLE: 1408031

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

SAMPLE DUPLICATE: 1408032

Parameter	Units	60173209001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	15.8	14.8	7	17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173194001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

QC Batch: WETA/30165
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173194001

METHOD BLANK: 1408167 Matrix: Water
Associated Lab Samples: 60173194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/12/14 10:16	

LABORATORY CONTROL SAMPLE: 1408168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1408169

Parameter	Units	60173220005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	225	100	297	72	90-110	M1

MATRIX SPIKE SAMPLE: 1408171

Parameter	Units	60173122001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5400	5000	9680	85	90-110	M1

SAMPLE DUPLICATE: 1408170

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	55200	57200	4	25	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-353
Pace Project No.: 60173194

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173194001	**316-353**	EPA 200.7	MPRP/27978	EPA 200.7	ICP/21155
60173194001	**316-353**	EPA 200.7	MPRP/28006	EPA 200.7	ICP/21167
60173194001	**316-353**	EPA 245.1	MERP/8580	EPA 245.1	MERC/8535
60173194001	**316-353**	EPA 245.1	MERP/8581	EPA 245.1	MERC/8536
60173194001	**316-353**	EPA 625	OEXT/45037	EPA 625	MSSV/14434
60173194001	**316-353**	EPA 624 Low	MSV/62934		
60173194002	**TRIP BLANK**	EPA 624 Low	MSV/62934		
60173194001	**316-353**	EPA 1664A	WET/48997		
60173194001	**316-353**	EPA 1664A	WET/48999		
60173194001	**316-353**	SM 2540D	WET/48957		
60173194001	**316-353**	SM 4500-H+B	WET/48949		
60173194001	**316-353**	SM 5210B	WET/48936	SM 5210B	WET/49068
60173194001	**316-353**	EPA 350.1	WETA/30176		
60173194001	**316-353**	EPA 410.4	WETA/30165		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60173194

60173194

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 7.8

Date and initials of person examining contents: pv 7/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. received BOD on time but not
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3. enough time to set it up.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8. sample did not get cold enough
Correct containers used:	☑Yes ☐No ☐N/A	because most of the ice melted.
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 5-0/2-0
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 12524
Trip Blank present: Pace Trip Blank lot # (if purchased): cover	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/9/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60173194
1	316-353 2AG4U 1BP3U 3AG3S	OT	G	7/7/14	0705	—	—		15	10	4	1	0	1BP3S	3U			X	X	X	X	X	X	X	X	X	X	1BP3N	9-0 2DP2U 5DG9U 2DG9U
2	TRIP BLANK	—	—	—	—	—	—		2	2														X					
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	7-8-14	2:05pm	Samantha Hardt	7/8/14	2:05				
SITE ADDRESS: BRIDGETON LF					7/9/14	0215	7-8	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:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:		DATE Signed: 7/7/14				

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

July 16, 2014

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

RE: Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 09, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

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
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173195001	**316-354**	Water	07/08/14 12:17	07/09/14 02:15
60173195002	**TRIP BLANK**	Water	07/08/14 12:17	07/09/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173195001	**316-354**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	ESM	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173195002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Date: July 16, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Sample: 316-354 **Lab ID: 60173195001** Collected: 07/08/14 12:17 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4860**	ug/L	750	2	07/10/14 11:00	07/11/14 14:09	7429-90-5	
Antimony	**75.2**	ug/L	50.0	1	07/10/14 11:00	07/11/14 14:06	7440-36-0	
Arsenic	**1240**	ug/L	50.0	1	07/10/14 11:00	07/11/14 14:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/10/14 11:00	07/11/14 14:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/10/14 11:00	07/11/14 14:06	7440-43-9	
Chromium	**220**	ug/L	25.0	1	07/10/14 11:00	07/11/14 14:06	7440-47-3	
Cobalt	**36.7**	ug/L	25.0	1	07/10/14 11:00	07/11/14 14:06	7440-48-4	
Copper	ND	ug/L	50.0	1	07/10/14 11:00	07/11/14 14:06	7440-50-8	
Iron	**645000**	ug/L	250	1	07/10/14 11:00	07/11/14 14:06	7439-89-6	
Lead	**104**	ug/L	25.0	1	07/10/14 11:00	07/11/14 14:06	7439-92-1	
Nickel	**118**	ug/L	25.0	1	07/10/14 11:00	07/11/14 14:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/10/14 11:00	07/11/14 14:06	7782-49-2	
Silver	ND	ug/L	35.0	1	07/10/14 11:00	07/11/14 14:06	7440-22-4	
Thallium	ND	ug/L	200	2	07/10/14 11:00	07/11/14 14:09	7440-28-0	D3
Zinc	**5480**	ug/L	500	2	07/10/14 11:00	07/11/14 14:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2010**	ug/L	750	2	07/11/14 10:20	07/14/14 11:19	7429-90-5	
Antimony, Dissolved	**69.0**	ug/L	50.0	1	07/11/14 10:20	07/14/14 11:17	7440-36-0	
Arsenic, Dissolved	**1090**	ug/L	50.0	1	07/11/14 10:20	07/14/14 11:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/11/14 10:20	07/14/14 11:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/11/14 10:20	07/14/14 11:17	7440-43-9	
Chromium, Dissolved	**177**	ug/L	25.0	1	07/11/14 10:20	07/14/14 11:17	7440-47-3	
Cobalt, Dissolved	**29.1**	ug/L	25.0	1	07/11/14 10:20	07/14/14 11:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/11/14 10:20	07/14/14 11:17	7440-50-8	
Iron, Dissolved	**410000**	ug/L	250	1	07/11/14 10:20	07/14/14 11:17	7439-89-6	
Lead, Dissolved	**44.1**	ug/L	25.0	1	07/11/14 10:20	07/14/14 11:17	7439-92-1	
Nickel, Dissolved	**93.8**	ug/L	25.0	1	07/11/14 10:20	07/14/14 11:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/11/14 10:20	07/14/14 11:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/11/14 10:20	07/14/14 11:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	07/11/14 10:20	07/14/14 11:19	7440-28-0	D3
Zinc, Dissolved	**5200**	ug/L	500	2	07/11/14 10:20	07/14/14 11:19	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/10/14 16:30	07/11/14 10:27	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/10/14 16:30	07/11/14 10:55	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/10/14 00:00	07/11/14 14:53	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/10/14 00:00	07/11/14 14:53	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7380**	ug/L	4000	2	07/10/14 00:00	07/11/14 14:53		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Sample: 316-354 **Lab ID: 60173195001** Collected: 07/08/14 12:17 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	87-86-5	
Phenol	**11400**	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/10/14 00:00	07/11/14 14:53	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	07/10/14 00:00	07/11/14 14:53	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/10/14 00:00	07/11/14 14:53	321-60-8	
Terphenyl-d14 (S)	75	%	45-120	2	07/10/14 00:00	07/11/14 14:53	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/10/14 00:00	07/11/14 14:53	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	07/10/14 00:00	07/11/14 14:53	367-12-4	
2,4,6-Tribromophenol (S)	81	%	39-120	2	07/10/14 00:00	07/11/14 14:53	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**72300**	ug/L	2000	200		07/11/14 13:38	67-64-1	N2
Benzene	ND	ug/L	200	200		07/11/14 13:38	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/11/14 13:38	75-27-4	
Bromoform	ND	ug/L	200	200		07/11/14 13:38	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/11/14 13:38	74-83-9	
2-Butanone (MEK)	**26700**	ug/L	2000	200		07/11/14 13:38	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/11/14 13:38	56-23-5	
Chloroethane	ND	ug/L	200	200		07/11/14 13:38	75-00-3	
Chloroform	ND	ug/L	200	200		07/11/14 13:38	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/11/14 13:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/11/14 13:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/11/14 13:38	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/11/14 13:38	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/11/14 13:38	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/11/14 13:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/11/14 13:38	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/11/14 13:38	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/11/14 13:38	127-18-4	
Toluene	ND	ug/L	200	200		07/11/14 13:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/11/14 13:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/11/14 13:38	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/11/14 13:38	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/11/14 13:38	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/11/14 13:38	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/11/14 13:38	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		07/11/14 13:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/11/14 13:38	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/11/14 13:38		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1120**	mg/L	5.0	1		07/14/14 08:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Sample: 316-354 **Lab ID: 60173195001** Collected: 07/08/14 12:17 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.5**	mg/L	5.0	1		07/14/14 08:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4500**	mg/L	5.0	1		07/11/14 12:59		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/12/14 13:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34900**	mg/L	2.0	1	07/10/14 11:09	07/15/14 08:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**578**	mg/L	20.0	200		07/10/14 14:18	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54900**	mg/L	5000	500		07/12/14 10:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Sample: TRIP BLANK **Lab ID: 60173195002** Collected: 07/08/14 12:17 Received: 07/09/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/11/14 12:51	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/11/14 12:51	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/11/14 12:51	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/11/14 12:51	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/11/14 12:51	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/11/14 12:51	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/11/14 12:51	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/11/14 12:51	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/11/14 12:51	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/11/14 12:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/11/14 12:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/11/14 12:51	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/11/14 12:51	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/11/14 12:51	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/11/14 12:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/11/14 12:51	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/11/14 12:51	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/11/14 12:51	127-18-4	
Toluene	ND	ug/L	1.0	1		07/11/14 12:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/11/14 12:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/11/14 12:51	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/11/14 12:51	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/11/14 12:51	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/11/14 12:51	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		07/11/14 12:51	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		07/11/14 12:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/11/14 12:51	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/11/14 12:51		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: MERP/8580
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173195001

METHOD BLANK: 1408770 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/11/14 10:15	

LABORATORY CONTROL SAMPLE: 1408771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408772 1408773

Parameter	Units	60173194001 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	122	135	81	90	70-130	10	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: MERP/8581
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173195001

METHOD BLANK: 1408774 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/11/14 10:44	

LABORATORY CONTROL SAMPLE: 1408775

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408776 1408777

Parameter	Units	60173194001 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	139	145	92	97	70-130	5	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: MPRP/27978
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173195001

METHOD BLANK: 1408057
Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/11/14 13:47	
Antimony	ug/L	ND	10.0	07/11/14 13:47	
Arsenic	ug/L	ND	10.0	07/11/14 13:47	
Beryllium	ug/L	ND	1.0	07/11/14 13:47	
Cadmium	ug/L	ND	5.0	07/11/14 13:47	
Chromium	ug/L	ND	5.0	07/11/14 13:47	
Cobalt	ug/L	ND	5.0	07/11/14 13:47	
Copper	ug/L	ND	10.0	07/11/14 13:47	
Iron	ug/L	ND	50.0	07/11/14 13:47	
Lead	ug/L	ND	5.0	07/11/14 13:47	
Nickel	ug/L	ND	5.0	07/11/14 13:47	
Selenium	ug/L	ND	15.0	07/11/14 13:47	
Silver	ug/L	ND	7.0	07/11/14 13:47	
Thallium	ug/L	ND	20.0	07/11/14 13:47	
Zinc	ug/L	ND	50.0	07/11/14 13:47	

LABORATORY CONTROL SAMPLE: 1408058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9550	95	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	955	95	85-115	
Cadmium	ug/L	1000	963	96	85-115	
Chromium	ug/L	1000	951	95	85-115	
Cobalt	ug/L	1000	989	99	85-115	
Copper	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	9310	93	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	991	99	85-115	
Selenium	ug/L	1000	975	98	85-115	
Silver	ug/L	500	476	95	85-115	
Thallium	ug/L	1000	999	100	85-115	
Zinc	ug/L	1000	932	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1408059 1408060

Parameter	Units	60173194001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4480	10000	10000	11200	11300	68	69	70-130	1	8	M1
Antimony	ug/L	59.9	1000	1000	1120	1090	107	103	70-130	3	7	
Arsenic	ug/L	1140	1000	1000	1410	1370	27	23	70-130	3	10	M1
Beryllium	ug/L	ND	1000	1000	954	958	95	96	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1070	1050	107	104	70-130	2	10	
Chromium	ug/L	211	1000	1000	982	1000	77	79	70-130	2	10	
Cobalt	ug/L	34.2	1000	1000	976	967	94	93	70-130	1	6	
Copper	ug/L	ND	1000	1000	1130	1050	111	104	70-130	7	11	
Iron	ug/L	712000	10000	10000	165000	179000	-5466	-5331	70-130	8	10	M1
Lead	ug/L	111	1000	1000	925	923	81	81	70-130	0	10	
Nickel	ug/L	113	1000	1000	981	971	87	86	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1270	1220	127	122	70-130	4	10	
Silver	ug/L	ND	500	500	538	523	104	101	70-130	3	10	
Thallium	ug/L	ND	1000	1000	844	833	84	83	70-130	1	6	
Zinc	ug/L	5020	1000	1000	1950	1980	-307	-304	70-130	2	11	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: MPRP/28006
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173195001

METHOD BLANK: 1409026 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/14/14 10:56	
Antimony, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Arsenic, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Beryllium, Dissolved	ug/L	ND	1.0	07/14/14 10:56	
Cadmium, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Chromium, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Cobalt, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Copper, Dissolved	ug/L	ND	10.0	07/14/14 10:56	
Iron, Dissolved	ug/L	ND	50.0	07/14/14 10:56	
Lead, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Nickel, Dissolved	ug/L	ND	5.0	07/14/14 10:56	
Selenium, Dissolved	ug/L	ND	15.0	07/14/14 10:56	
Silver, Dissolved	ug/L	ND	7.0	07/14/14 10:56	
Thallium, Dissolved	ug/L	ND	20.0	07/14/14 10:56	
Zinc, Dissolved	ug/L	ND	50.0	07/14/14 10:56	

LABORATORY CONTROL SAMPLE: 1409027

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9770	98	85-115	
Antimony, Dissolved	ug/L	1000	992	99	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	986	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	961	96	85-115	
Iron, Dissolved	ug/L	10000	10100	101	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	483	97	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1409028 1409029

Parameter	Units	60173194001 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	2110	50000	50000	54700	52600	105	101	70-130	4	8	
Antimony, Dissolved	ug/L	83.1	5000	5000	5430	5410	107	107	70-130	0	7	
Arsenic, Dissolved	ug/L	1070	5000	5000	6580	6610	110	111	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4780	4820	96	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5250	5230	105	104	70-130	0	10	
Chromium, Dissolved	ug/L	190	5000	5000	4900	4860	94	93	70-130	1	10	
Cobalt, Dissolved	ug/L	27.0	5000	5000	4840	4850	96	96	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5240	5300	104	106	70-130	1	11	
Iron, Dissolved	ug/L	428000	50000	50000	458000	452000	60	48	70-130	1	10	M1
Lead, Dissolved	ug/L	31.4	5000	5000	4580	4570	91	91	70-130	0	10	
Nickel, Dissolved	ug/L	91.5	5000	5000	4850	4870	95	96	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6040	6030	120	120	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2600	2600	103	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4500	93	90	70-130	3	6	
Zinc, Dissolved	ug/L	5310	5000	5000	10400	9940	102	93	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: MSV/62934 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173195001, 60173195002

METHOD BLANK: 1408809 Matrix: Water
Associated Lab Samples: 60173195001, 60173195002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/11/14 11:34	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,2-Dichloroethane	ug/L	ND	1.0	07/11/14 11:34	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/11/14 11:34	
2-Butanone (MEK)	ug/L	ND	10.0	07/11/14 11:34	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/11/14 11:34	N2
Acetone	ug/L	ND	10.0	07/11/14 11:34	N2
Benzene	ug/L	ND	1.0	07/11/14 11:34	
Bromodichloromethane	ug/L	ND	1.0	07/11/14 11:34	
Bromoform	ug/L	ND	1.0	07/11/14 11:34	
Bromomethane	ug/L	ND	5.0	07/11/14 11:34	
Carbon tetrachloride	ug/L	ND	1.0	07/11/14 11:34	
Chloroethane	ug/L	ND	1.0	07/11/14 11:34	
Chloroform	ug/L	ND	1.0	07/11/14 11:34	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/11/14 11:34	N2
Ethylbenzene	ug/L	ND	1.0	07/11/14 11:34	
Methylene chloride	ug/L	ND	1.0	07/11/14 11:34	
Tetrachloroethene	ug/L	ND	1.0	07/11/14 11:34	
Toluene	ug/L	ND	1.0	07/11/14 11:34	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/11/14 11:34	
Trichloroethene	ug/L	ND	1.0	07/11/14 11:34	
Vinyl chloride	ug/L	ND	1.0	07/11/14 11:34	
Xylene (Total)	ug/L	ND	3.0	07/11/14 11:34	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/11/14 11:34	
4-Bromofluorobenzene (S)	%	97	80-120	07/11/14 11:34	
Toluene-d8 (S)	%	102	80-120	07/11/14 11:34	

LABORATORY CONTROL SAMPLE: 1408810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.7	104	67-124	
1,2-Dichloroethane	ug/L	20	18.8	94	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	82.2	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.6	92	59-131	N2
Acetone	ug/L	100	82.5	83	38-134	N2
Benzene	ug/L	20	17.8	89	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

LABORATORY CONTROL SAMPLE: 1408810

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	99	68-125	
Bromoform	ug/L	20	21.8	109	65-127	
Bromomethane	ug/L	20	22.5	113	13-157	
Carbon tetrachloride	ug/L	20	18.2	91	70-131	
Chloroethane	ug/L	20	17.6	88	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.3	91	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	17.4	87	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.2	91	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.1	91	66-129	
Trichloroethene	ug/L	20	19.0	95	71-123	
Vinyl chloride	ug/L	20	16.8	84	43-129	
Xylene (Total)	ug/L	60	59.5	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1408811

Parameter	Units	60173194001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4040	97	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3720	89	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3810	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3710	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3880	93	33-140	
2-Butanone (MEK)	ug/L	27600	20000	41500	69	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17600	84	40-160	N2
Acetone	ug/L	73900	20000	84300	52	10-160	N2
Benzene	ug/L	ND	4000	3660	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	93	35-142	
Bromoform	ug/L	ND	4000	4010	98	45-142	
Bromomethane	ug/L	ND	4000	4330	102	10-158	
Carbon tetrachloride	ug/L	ND	4000	4210	101	70-140	
Chloroethane	ug/L	ND	4000	3800	91	19-152	
Chloroform	ug/L	ND	4000	3740	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3630	87	34-147	N2
Ethylbenzene	ug/L	ND	4000	4130	99	40-142	
Methylene chloride	ug/L	ND	4000	3500	83	31-144	
Tetrachloroethene	ug/L	ND	4000	4170	100	64-148	
Toluene	ug/L	ND	4000	3810	91	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3900	94	54-151	
Trichloroethene	ug/L	ND	4000	3910	94	71-149	
Vinyl chloride	ug/L	ND	4000	3740	90	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

MATRIX SPIKE SAMPLE: 1408811

Parameter	Units	60173194001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: OEXT/45037 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60173195001

METHOD BLANK: 1408202 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/11/14 12:48	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/11/14 12:48	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/11/14 12:48	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/11/14 12:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/11/14 12:48	
Hexachloroethane	ug/L	ND	5.0	07/11/14 12:48	
Naphthalene	ug/L	ND	5.0	07/11/14 12:48	
Nitrobenzene	ug/L	ND	5.0	07/11/14 12:48	
Pentachlorophenol	ug/L	ND	5.0	07/11/14 12:48	
Phenol	ug/L	ND	5.0	07/11/14 12:48	
2,4,6-Tribromophenol (S)	%	85	39-120	07/11/14 12:48	
2-Fluorobiphenyl (S)	%	89	39-120	07/11/14 12:48	
2-Fluorophenol (S)	%	53	17-120	07/11/14 12:48	
Nitrobenzene-d5 (S)	%	85	33-120	07/11/14 12:48	
Phenol-d6 (S)	%	36	11-120	07/11/14 12:48	
Terphenyl-d14 (S)	%	93	45-120	07/11/14 12:48	

LABORATORY CONTROL SAMPLE: 1408203

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	41.3	83	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.2	70	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	48.3	97	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.5	72	24-120	
Hexachloroethane	ug/L	50	36.2	72	43-113	
Naphthalene	ug/L	50	39.9	80	48-120	
Nitrobenzene	ug/L	50	40.3	81	48-120	
Pentachlorophenol	ug/L	50	45.5	91	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

MATRIX SPIKE SAMPLE: 1408204

Parameter	Units	60173080001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3580	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4270	85	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3780	76	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6830	5000	10400	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4240J	85	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3410	68	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6860	69	11-120	
Hexachloroethane	ug/L	ND	5000	3540	71	40-113	
Naphthalene	ug/L	ND	5000	4080	74	45-120	
Nitrobenzene	ug/L	ND	5000	3750	75	38-120	
Pentachlorophenol	ug/L	ND	5000	4770	95	43-135	
Phenol	ug/L	10300	5000	12900	53	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				80	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				80	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WET/48997
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173195001

METHOD BLANK: 1409879 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/14/14 08:43	

LABORATORY CONTROL SAMPLE: 1409880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.2	93	78-114	

MATRIX SPIKE SAMPLE: 1409881

Parameter	Units	60172879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43	38.2	86	78-114	

SAMPLE DUPLICATE: 1409897

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	845	938	10	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WET/48999 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173195001

METHOD BLANK: 1409893 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/14/14 08:50	

LABORATORY CONTROL SAMPLE: 1409894

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.5	118	64-132	

MATRIX SPIKE SAMPLE: 1409896

Parameter	Units	60172879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.5	15.6	67	64-132	

SAMPLE DUPLICATE: 1409895

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.6	10.0	4	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WET/48981 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173195001

METHOD BLANK: 1409105 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/11/14 12:57	

SAMPLE DUPLICATE: 1409106

Parameter	Units	60173187001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	46.0	41.0	11	10	D6

SAMPLE DUPLICATE: 1409107

Parameter	Units	60173195001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4500	4560	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WET/48996
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173195001

SAMPLE DUPLICATE: 1409851

Parameter	Units	60173117001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WET/48955 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173195001

METHOD BLANK: 1408340 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/15/14 08:05	

LABORATORY CONTROL SAMPLE: 1408341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	204	103	85-115	

SAMPLE DUPLICATE: 1408342

Parameter	Units	60173163006 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	37.2	43.1	15	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WETA/30176 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173195001

METHOD BLANK: 1408319 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/10/14 13:45	

LABORATORY CONTROL SAMPLE: 1408320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	1.9	97	90-110	

MATRIX SPIKE SAMPLE: 1408321

Parameter	Units	60172836003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	94	90-110	

MATRIX SPIKE SAMPLE: 1408322

Parameter	Units	60172852002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	87	90-110	M1

SAMPLE DUPLICATE: 1408323

Parameter	Units	60172860003 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	4	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

QC Batch: WETA/30165 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173195001

METHOD BLANK: 1408167 Matrix: Water
Associated Lab Samples: 60173195001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/12/14 10:16	

LABORATORY CONTROL SAMPLE: 1408168

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.3	103	90-110	

MATRIX SPIKE SAMPLE: 1408169

Parameter	Units	60173220005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	225	100	297	72	90-110	M1

MATRIX SPIKE SAMPLE: 1408171

Parameter	Units	60173122001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	5400	5000	9680	85	90-110	M1

SAMPLE DUPLICATE: 1408170

Parameter	Units	60173194001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	55200	57200	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-354
Pace Project No.: 60173195

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173195001	**316-354**	EPA 200.7	MPRP/27978	EPA 200.7	ICP/21155
60173195001	**316-354**	EPA 200.7	MPRP/28006	EPA 200.7	ICP/21167
60173195001	**316-354**	EPA 245.1	MERP/8580	EPA 245.1	MERC/8535
60173195001	**316-354**	EPA 245.1	MERP/8581	EPA 245.1	MERC/8536
60173195001	**316-354**	EPA 625	OEXT/45037	EPA 625	MSSV/14434
60173195001	**316-354**	EPA 624 Low	MSV/62934		
60173195002	**TRIP BLANK**	EPA 624 Low	MSV/62934		
60173195001	**316-354**	EPA 1664A	WET/48997		
60173195001	**316-354**	EPA 1664A	WET/48999		
60173195001	**316-354**	SM 2540D	WET/48981		
60173195001	**316-354**	SM 4500-H+B	WET/48996		
60173195001	**316-354**	SM 5210B	WET/48955	SM 5210B	WET/49029
60173195001	**316-354**	EPA 350.1	WETA/30176		
60173195001	**316-354**	EPA 410.4	WETA/30165		

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Sample Condition Upon Receipt

WO#: 60173195

60173195

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 11.2

Date and initials of person examining contents: JV 7/9/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1. Sample received warm.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. most of the ice melted.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14. Added 2-5mL of HNO3 to BP3N. pH 6.0/4.0 Added 2-0mL of H2SO4 to BP3S. pH 5.0/3-5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: JV Lot # of added preservative: 12513 12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Cover		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: ND

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/9/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60173195
1	316-354 2AG4U 1BP2U 3AG3S	OT	G	7/8/14	1317	—	—		15	10	4	1	0	1BP3N	4.0				X	X	X	X	X	X	X	X	X	X	X	1BP3S	3.5	2BP2U 5DG9U 4.1
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2DG9U
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	7-8-14	2:05	[signature]	7/8/14	2:05				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/9/14	0215	11.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/8/14

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

July 18, 2014

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

RE: Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 11, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173405001	**316-355**	Water	07/10/14 07:45	07/11/14 02:10
60173405002	**TRIP BLANK**	Water	07/10/14 07:45	07/11/14 02:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173405001	**316-355**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173405002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Sample: 316-355 **Lab ID: 60173405001** Collected: 07/10/14 07:45 Received: 07/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2880**	ug/L	750	2	07/14/14 11:50	07/15/14 17:17	7429-90-5	
Antimony	**56.8**	ug/L	50.0	1	07/14/14 11:50	07/15/14 17:10	7440-36-0	
Arsenic	**1090**	ug/L	50.0	1	07/14/14 11:50	07/15/14 17:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/14/14 11:50	07/15/14 17:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/14/14 11:50	07/15/14 17:10	7440-43-9	
Chromium	**189**	ug/L	25.0	1	07/14/14 11:50	07/15/14 17:10	7440-47-3	
Cobalt	**32.5**	ug/L	25.0	1	07/14/14 11:50	07/15/14 17:10	7440-48-4	
Copper	ND	ug/L	50.0	1	07/14/14 11:50	07/15/14 17:10	7440-50-8	
Iron	**438000**	ug/L	250	1	07/14/14 11:50	07/15/14 17:10	7439-89-6	
Lead	**43.5**	ug/L	25.0	1	07/14/14 11:50	07/15/14 17:10	7439-92-1	
Nickel	**105**	ug/L	25.0	1	07/14/14 11:50	07/15/14 17:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/14/14 11:50	07/15/14 17:10	7782-49-2	M1
Silver	ND	ug/L	35.0	1	07/14/14 11:50	07/15/14 17:10	7440-22-4	
Thallium	ND	ug/L	200	2	07/14/14 11:50	07/15/14 17:17	7440-28-0	
Zinc	**6670**	ug/L	500	2	07/14/14 11:50	07/15/14 17:17	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2230**	ug/L	750	2	07/14/14 16:40	07/16/14 11:04	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:02	7440-36-0	
Arsenic, Dissolved	**880**	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:02	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/14/14 16:40	07/16/14 11:02	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:02	7440-43-9	
Chromium, Dissolved	**169**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:02	7440-47-3	
Cobalt, Dissolved	**26.2**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:02	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:02	7440-50-8	
Iron, Dissolved	**421000**	ug/L	250	1	07/14/14 16:40	07/16/14 11:02	7439-89-6	M1
Lead, Dissolved	**34.3**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:02	7439-92-1	
Nickel, Dissolved	**83.3**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:02	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/14/14 16:40	07/16/14 11:02	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/14/14 16:40	07/16/14 11:02	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/14/14 16:40	07/16/14 11:02	7440-28-0	
Zinc, Dissolved	**5730**	ug/L	500	2	07/14/14 16:40	07/16/14 11:04	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/14/14 16:30	07/15/14 09:12	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/14/14 16:30	07/15/14 09:45	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/14/14 00:00	07/15/14 13:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/14/14 00:00	07/15/14 13:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7280**	ug/L	4000	2	07/14/14 00:00	07/15/14 13:40		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Sample: 316-355 **Lab ID: 60173405001** Collected: 07/10/14 07:45 Received: 07/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	87-86-5	
Phenol	**11600**	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 13:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	33-120	2	07/14/14 00:00	07/15/14 13:40	4165-60-0	
2-Fluorobiphenyl (S)	78	%	39-120	2	07/14/14 00:00	07/15/14 13:40	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	07/14/14 00:00	07/15/14 13:40	1718-51-0	
Phenol-d6 (S)	36	%	11-120	2	07/14/14 00:00	07/15/14 13:40	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	07/14/14 00:00	07/15/14 13:40	367-12-4	
2,4,6-Tribromophenol (S)	78	%	39-120	2	07/14/14 00:00	07/15/14 13:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**62100**	ug/L	2000	200		07/15/14 17:19	67-64-1	N2
Benzene	ND	ug/L	200	200		07/15/14 17:19	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/15/14 17:19	75-27-4	
Bromoform	ND	ug/L	200	200		07/15/14 17:19	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/15/14 17:19	74-83-9	
2-Butanone (MEK)	**23300**	ug/L	2000	200		07/15/14 17:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/15/14 17:19	56-23-5	
Chloroethane	ND	ug/L	200	200		07/15/14 17:19	75-00-3	
Chloroform	ND	ug/L	200	200		07/15/14 17:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/15/14 17:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/15/14 17:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 17:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 17:19	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/15/14 17:19	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/15/14 17:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/15/14 17:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/15/14 17:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/15/14 17:19	127-18-4	
Toluene	ND	ug/L	200	200		07/15/14 17:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/15/14 17:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/15/14 17:19	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/15/14 17:19	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/15/14 17:19	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/15/14 17:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/15/14 17:19	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		07/15/14 17:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	200		07/15/14 17:19	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/15/14 17:19		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**886**	mg/L	5.0	1		07/15/14 14:19		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Sample: 316-355 **Lab ID: 60173405001** Collected: 07/10/14 07:45 Received: 07/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**76.2**	mg/L	5.0	1		07/15/14 14:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3920**	mg/L	5.0	1		07/16/14 09:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/15/14 13:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31600**	mg/L	2.0	1	07/11/14 14:18	07/16/14 12:32		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**644**	mg/L	20.0	200		07/16/14 10:06	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52200**	mg/L	5000	500		07/16/14 08:59		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Sample: TRIP BLANK **Lab ID: 60173405002** Collected: 07/10/14 07:45 Received: 07/11/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/15/14 15:21	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/15/14 15:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/15/14 15:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/15/14 15:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/15/14 15:21	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/15/14 15:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/15/14 15:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/15/14 15:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/15/14 15:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/15/14 15:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/15/14 15:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/15/14 15:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/15/14 15:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/15/14 15:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/15/14 15:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/15/14 15:21	127-18-4	
Toluene	ND	ug/L	1.0	1		07/15/14 15:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/15/14 15:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/15/14 15:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/15/14 15:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	1		07/15/14 15:21	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		07/15/14 15:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		07/15/14 15:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/15/14 15:21		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: MERP/8587
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173405001

METHOD BLANK: 1410099 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/15/14 09:01	

LABORATORY CONTROL SAMPLE: 1410100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410101 1410102

Parameter	Units	60173391001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.3	86	86	70-130	0	20	

MATRIX SPIKE SAMPLE: 1410103

Parameter	Units	60173299002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.1	101	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: MERP/8591
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173405001

METHOD BLANK: 1410189 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/15/14 09:41	

LABORATORY CONTROL SAMPLE: 1410190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410191 1410192

Parameter	Units	60173405001 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	118	122	79	81	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: MPRP/28027
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173405001

METHOD BLANK: 1410045
Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/15/14 17:08	
Antimony	ug/L	ND	10.0	07/15/14 17:08	
Arsenic	ug/L	ND	10.0	07/15/14 17:08	
Beryllium	ug/L	ND	1.0	07/15/14 17:08	
Cadmium	ug/L	ND	5.0	07/15/14 17:08	
Chromium	ug/L	ND	5.0	07/15/14 17:08	
Cobalt	ug/L	ND	5.0	07/15/14 17:08	
Copper	ug/L	ND	10.0	07/15/14 17:08	
Iron	ug/L	ND	50.0	07/15/14 17:08	
Lead	ug/L	ND	5.0	07/15/14 17:08	
Nickel	ug/L	ND	5.0	07/15/14 17:08	
Selenium	ug/L	ND	15.0	07/15/14 17:08	
Silver	ug/L	ND	7.0	07/15/14 17:08	
Thallium	ug/L	ND	20.0	07/15/14 17:08	
Zinc	ug/L	ND	50.0	07/15/14 17:08	

LABORATORY CONTROL SAMPLE: 1410046

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9620	96	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	987	99	85-115	
Beryllium	ug/L	1000	968	97	85-115	
Cadmium	ug/L	1000	998	100	85-115	
Chromium	ug/L	1000	942	94	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9340	93	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	1030	103	85-115	
Silver	ug/L	500	479	96	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	952	95	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410047 1410048

Parameter	Units	60173405001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2880	50000	50000	53100	52900	100	100	70-130	0	8	
Antimony	ug/L	56.8	5000	5000	5740	5660	114	112	70-130	1	7	
Arsenic	ug/L	1090	5000	5000	7040	6900	119	116	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4730	4690	95	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5440	5360	109	107	70-130	2	10	
Chromium	ug/L	189	5000	5000	4790	4720	92	91	70-130	1	10	
Cobalt	ug/L	32.5	5000	5000	4950	4880	98	97	70-130	1	6	
Copper	ug/L	ND	5000	5000	5580	5500	111	110	70-130	1	11	
Iron	ug/L	438000	50000	50000	498000	476000	120	76	70-130	5	10	
Lead	ug/L	43.5	5000	5000	4720	4650	93	92	70-130	1	10	
Nickel	ug/L	105	5000	5000	5000	4950	98	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6560	6420	131	128	70-130	2	10	M1
Silver	ug/L	ND	2500	2500	2640	2620	105	104	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4300	4260	86	85	70-130	1	6	
Zinc	ug/L	6670	5000	5000	11600	11200	98	90	70-130	3	11	

MATRIX SPIKE SAMPLE: 1410049

Parameter	Units	60173463008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	0.16 mg/L	10000	10300	101	70-130	
Antimony	ug/L	0.14 mg/L	1000	459	32	70-130	M1
Arsenic	ug/L	0.092 mg/L	1000	671	58	70-130	M1
Beryllium	ug/L	0.0016 mg/L	1000	965	96	70-130	
Cadmium	ug/L	ND	1000	770	77	70-130	
Chromium	ug/L	14.0 mg/L	1000	15300	124	70-130	
Cobalt	ug/L	9.9 mg/L	1000	9890	2	70-130	M1
Copper	ug/L	0.045 mg/L	1000	1090	105	70-130	
Iron	ug/L	2.8 mg/L	10000	12400	95	70-130	
Lead	ug/L	0.0097 mg/L	1000	663	65	70-130	M1
Nickel	ug/L	0.16 mg/L	1000	933	77	70-130	
Selenium	ug/L	1.2 mg/L	1000	3000	183	70-130	M1
Silver	ug/L	ND	500	508	101	70-130	
Thallium	ug/L	ND	1000	589	59	70-130	M1
Zinc	ug/L	0.090 mg/L	1000	954	86	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: MPRP/28037
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173405001

METHOD BLANK: 1410168
Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/16/14 10:57	
Antimony, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Arsenic, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Beryllium, Dissolved	ug/L	ND	1.0	07/16/14 10:57	
Cadmium, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Chromium, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Cobalt, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Copper, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Iron, Dissolved	ug/L	ND	50.0	07/16/14 10:57	
Lead, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Nickel, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Selenium, Dissolved	ug/L	ND	15.0	07/16/14 10:57	
Silver, Dissolved	ug/L	ND	7.0	07/16/14 10:57	
Thallium, Dissolved	ug/L	ND	20.0	07/16/14 10:57	
Zinc, Dissolved	ug/L	ND	50.0	07/16/14 10:57	

LABORATORY CONTROL SAMPLE: 1410169

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9340	93	85-115	
Antimony, Dissolved	ug/L	1000	988	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	943	94	85-115	
Cadmium, Dissolved	ug/L	1000	975	97	85-115	
Chromium, Dissolved	ug/L	1000	936	94	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	955	96	85-115	
Iron, Dissolved	ug/L	10000	9550	96	85-115	
Lead, Dissolved	ug/L	1000	975	97	85-115	
Nickel, Dissolved	ug/L	1000	998	100	85-115	
Selenium, Dissolved	ug/L	1000	959	96	85-115	
Silver, Dissolved	ug/L	500	474	95	85-115	
Thallium, Dissolved	ug/L	1000	998	100	85-115	
Zinc, Dissolved	ug/L	1000	950	95	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410170 1410171

Parameter	Units	60173405001 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	2230	50000	50000	48100	49500	92	94	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5200	5260	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	880	5000	5000	6370	6460	110	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4430	4480	89	90	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5080	5140	101	103	70-130	1	10	
Chromium, Dissolved	ug/L	169	5000	5000	4500	4610	87	89	70-130	2	10	
Cobalt, Dissolved	ug/L	26.2	5000	5000	4720	4760	94	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4970	5080	99	101	70-130	2	11	
Iron, Dissolved	ug/L	421000	50000	50000	477000	488000	112	135	70-130	2	10	M1
Lead, Dissolved	ug/L	34.3	5000	5000	4340	4380	86	87	70-130	1	10	
Nickel, Dissolved	ug/L	83.3	5000	5000	4670	4700	92	92	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5710	5840	114	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2460	2530	98	101	70-130	3	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4100	4110	82	82	70-130	0	6	
Zinc, Dissolved	ug/L	5730	5000	5000	10200	10600	90	97	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: MSV/62991 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173405001, 60173405002

METHOD BLANK: 1410582 Matrix: Water
Associated Lab Samples: 60173405001, 60173405002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/15/14 14:51	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,2-Dichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/15/14 14:51	
2-Butanone (MEK)	ug/L	ND	10.0	07/15/14 14:51	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/15/14 14:51	N2
Acetone	ug/L	ND	10.0	07/15/14 14:51	N2
Benzene	ug/L	ND	1.0	07/15/14 14:51	
Bromodichloromethane	ug/L	ND	1.0	07/15/14 14:51	
Bromoform	ug/L	ND	1.0	07/15/14 14:51	
Bromomethane	ug/L	ND	5.0	07/15/14 14:51	
Carbon tetrachloride	ug/L	ND	1.0	07/15/14 14:51	
Chloroethane	ug/L	ND	1.0	07/15/14 14:51	
Chloroform	ug/L	ND	1.0	07/15/14 14:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	N2
Ethylbenzene	ug/L	ND	1.0	07/15/14 14:51	
Methylene chloride	ug/L	ND	1.0	07/15/14 14:51	
Tetrachloroethene	ug/L	ND	1.0	07/15/14 14:51	
Toluene	ug/L	ND	1.0	07/15/14 14:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Trichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Vinyl chloride	ug/L	ND	1.0	07/15/14 14:51	
Xylene (Total)	ug/L	ND	3.0	07/15/14 14:51	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/15/14 14:51	
4-Bromofluorobenzene (S)	%	95	80-120	07/15/14 14:51	
Toluene-d8 (S)	%	101	80-120	07/15/14 14:51	

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	99	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	98	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.1	90	59-131	N2
Acetone	ug/L	100	80.5	81	38-134	N2
Benzene	ug/L	20	19.1	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	21.3	106	65-127	
Bromomethane	ug/L	20	11.4	57	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	18.3	91	64-129	
Tetrachloroethene	ug/L	20	19.7	98	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	14.9	75	43-129	
Xylene (Total)	ug/L	60	58.9	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3890	97	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4140	104	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3900	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4070	102	33-140	
2-Butanone (MEK)	ug/L	23300	20000	40200	84	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18400	91	40-160	N2
Acetone	ug/L	62100	20000	81600	98	10-160	N2
Benzene	ug/L	ND	4000	3830	96	37-151	
Bromodichloromethane	ug/L	ND	4000	4050	101	35-142	
Bromoform	ug/L	ND	4000	3850	96	45-142	
Bromomethane	ug/L	ND	4000	1230	31	10-158	
Carbon tetrachloride	ug/L	ND	4000	3940	99	70-140	
Chloroethane	ug/L	ND	4000	4460	111	19-152	
Chloroform	ug/L	ND	4000	3990	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3820	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4230	106	40-142	
Methylene chloride	ug/L	ND	4000	3740	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4240	106	64-148	
Toluene	ug/L	ND	4000	4050	100	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3970	99	54-151	
Trichloroethene	ug/L	ND	4000	4030	101	71-149	
Vinyl chloride	ug/L	ND	4000	3420	85	22-146	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12700	105	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: OEXT/45078
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173405001

METHOD BLANK: 1409870
Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/15/14 10:04	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/15/14 10:04	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/15/14 10:04	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/15/14 10:04	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/15/14 10:04	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/15/14 10:04	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/15/14 10:04	
Hexachloroethane	ug/L	ND	5.0	07/15/14 10:04	
Naphthalene	ug/L	ND	5.0	07/15/14 10:04	
Nitrobenzene	ug/L	ND	5.0	07/15/14 10:04	
Pentachlorophenol	ug/L	ND	5.0	07/15/14 10:04	
Phenol	ug/L	ND	5.0	07/15/14 10:04	
2,4,6-Tribromophenol (S)	%	78	39-120	07/15/14 10:04	
2-Fluorobiphenyl (S)	%	77	39-120	07/15/14 10:04	
2-Fluorophenol (S)	%	50	17-120	07/15/14 10:04	
Nitrobenzene-d5 (S)	%	73	33-120	07/15/14 10:04	
Phenol-d6 (S)	%	34	11-120	07/15/14 10:04	
Terphenyl-d14 (S)	%	78	45-120	07/15/14 10:04	

LABORATORY CONTROL SAMPLE: 1409871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.3	69	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.5	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.8	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.8	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	56.0	56	24-120	
Hexachloroethane	ug/L	50	33.1	66	43-113	
Naphthalene	ug/L	50	36.6	73	48-120	
Nitrobenzene	ug/L	50	36.3	73	48-120	
Pentachlorophenol	ug/L	50	44.6	89	47-120	
Phenol	ug/L	50	20.3	41	16-112	
2,4,6-Tribromophenol (S)	%			82	39-120	
2-Fluorobiphenyl (S)	%			79	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			74	33-120	
Phenol-d6 (S)	%			36	11-120	
Terphenyl-d14 (S)	%			82	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

MATRIX SPIKE SAMPLE: 1409872

Parameter	Units	60173324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	23.5	47	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	26.6	53	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.0	54	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	25.9	52	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	24.4J	49	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	20.8	42	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	13.4	13	11-120	
Hexachloroethane	ug/L	ND	50	20.6	41	40-113	
Naphthalene	ug/L	ND	50	24.8	50	45-120	
Nitrobenzene	ug/L	ND	50	26.1	52	38-120	
Pentachlorophenol	ug/L	ND	50	34.0	68	43-135	
Phenol	ug/L	ND	50	16.2	32	13-112	
2,4,6-Tribromophenol (S)	%				52	39-120	
2-Fluorobiphenyl (S)	%				52	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				49	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				55	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WET/49041 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173405001

METHOD BLANK: 1410644 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/15/14 14:19	

LABORATORY CONTROL SAMPLE: 1410645

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

MATRIX SPIKE SAMPLE: 1410646

Parameter	Units	4099413003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1.0J	41.2	39.2	92	78-114	

SAMPLE DUPLICATE: 1410647

Parameter	Units	60173358001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1.7J	1.6J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WET/49042 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173405001

METHOD BLANK: 1410651 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/15/14 14:28	

LABORATORY CONTROL SAMPLE: 1410652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.6	113	64-132	

MATRIX SPIKE SAMPLE: 1410653

Parameter	Units	4099413003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	<1.2	20.6	15.6	71	64-132	

SAMPLE DUPLICATE: 1410654

Parameter	Units	60173358001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.5J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WET/49055 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173405001

METHOD BLANK: 1410962 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/16/14 09:23	

SAMPLE DUPLICATE: 1410963

Parameter	Units	60173414001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	264	268	2	10	

SAMPLE DUPLICATE: 1410964

Parameter	Units	60173423003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	11.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WET/49036
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173405001

SAMPLE DUPLICATE: 1410553

Parameter	Units	60173573001 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 316-355
Pace Project No.: 60173405

QC Batch: WET/48983
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173405001

METHOD BLANK: 1409142 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/16/14 11:52	

LABORATORY CONTROL SAMPLE: 1409143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	204	103	85-115	

SAMPLE DUPLICATE: 1409144

Parameter	Units	60173319001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	204	198	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WETA/30263
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173405001

METHOD BLANK: 1410778 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/16/14 09:38	

LABORATORY CONTROL SAMPLE: 1410779

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

MATRIX SPIKE SAMPLE: 1410780

Parameter	Units	60173291002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.1	99	90-110	

MATRIX SPIKE SAMPLE: 1410781

Parameter	Units	60173295005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	86	90-110	M1

SAMPLE DUPLICATE: 1410782

Parameter	Units	60173295006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

QC Batch: WETA/30232 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173405001

METHOD BLANK: 1410206 Matrix: Water
Associated Lab Samples: 60173405001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/16/14 08:56	

LABORATORY CONTROL SAMPLE: 1410207

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: 1410208

Parameter	Units	60173430004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	7880	5000	12500	93	90-110	

MATRIX SPIKE SAMPLE: 1410210

Parameter	Units	60173458003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4080	2500	6520	98	90-110	

SAMPLE DUPLICATE: 1410209

Parameter	Units	60173462001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2060	2050	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-355
Pace Project No.: 60173405

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173405001	**316-355**	EPA 200.7	MPRP/28027	EPA 200.7	ICP/21184
60173405001	**316-355**	EPA 200.7	MPRP/28037	EPA 200.7	ICP/21185
60173405001	**316-355**	EPA 245.1	MERP/8587	EPA 245.1	MERC/8542
60173405001	**316-355**	EPA 245.1	MERP/8591	EPA 245.1	MERC/8543
60173405001	**316-355**	EPA 625	OEXT/45078	EPA 625	MSSV/14447
60173405001	**316-355**	EPA 624 Low	MSV/62991		
60173405002	**TRIP BLANK**	EPA 624 Low	MSV/62991		
60173405001	**316-355**	EPA 1664A	WET/49041		
60173405001	**316-355**	EPA 1664A	WET/49042		
60173405001	**316-355**	SM 2540D	WET/49055		
60173405001	**316-355**	SM 4500-H+B	WET/49036		
60173405001	**316-355**	SM 5210B	WET/48983	SM 5210B	WET/49063
60173405001	**316-355**	EPA 350.1	WETA/30263		
60173405001	**316-355**	EPA 410.4	WETA/30232		

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Sample Condition Upon Receipt

WO# : 60173405

60173405

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 0.8

Date and initials of person examining contents: pv 7/11/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 mL of HNO3 to BP3N. PH6-0/4.0 Added 2.0 mL of H2SO4 to BP3S. PH5-0/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: pv Lot # of added preservative: 12513/12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 052214-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MD

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/11/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Page : 1 Of 1

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

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

6017345

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-355 2AG4U 1BP3U 3AG35	OT	G	7-10-14	7:30	7-10-14	7:45		14	10	4	1	0	1B	P3	U	4.0		X	X	X	X	X	X	X	X	X	X	X		1RP3	5 3.0 2BPL4 5DG9U
2	TRIP BLANK								2	2																X						2DG9U
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Adkins / FEI	7/10/14	2:13	Benyetta Harts	7/10/14	2:13				
SITE ADDRESS: BRIDGETON LF				[illegible] PASI	7/11/14	0210	0.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Arron Weber

SIGNATURE of SAMPLER: Arron Weber DATE Signed: 7-10-14

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

July 21, 2014

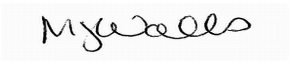
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173516001	**316-356**	Water	07/11/14 07:45	07/12/14 00:50
60173516002	**TRIP BLANK**	Water	07/11/14 07:45	07/12/14 00:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173516001	**316-356**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173516002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Sample: 316-356 **Lab ID: 60173516001** Collected: 07/11/14 07:45 Received: 07/12/14 00:50 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	**3310**	ug/L	750	2	07/15/14 16:25	07/16/14 16:29	7429-90-5	
Antimony	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:26	7440-36-0	
Arsenic	**1010**	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:26	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/15/14 16:25	07/16/14 16:26	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:26	7440-43-9	
Chromium	**201**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:26	7440-47-3	
Cobalt	**28.6**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:26	7440-48-4	
Copper	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:26	7440-50-8	
Iron	**455000**	ug/L	250	1	07/15/14 16:25	07/16/14 16:26	7439-89-6	M1,R1
Lead	**51.4**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:26	7439-92-1	
Nickel	**96.2**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:26	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/15/14 16:25	07/16/14 16:26	7782-49-2	
Silver	ND	ug/L	35.0	1	07/15/14 16:25	07/16/14 16:26	7440-22-4	
Thallium	ND	ug/L	100	1	07/15/14 16:25	07/16/14 16:26	7440-28-0	
Zinc	**7500**	ug/L	500	2	07/15/14 16:25	07/16/14 16:29	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2380**	ug/L	750	2	07/14/14 16:40	07/16/14 11:19	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:16	7440-36-0	
Arsenic, Dissolved	**890**	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/14/14 16:40	07/16/14 11:16	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:16	7440-43-9	
Chromium, Dissolved	**166**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:16	7440-47-3	
Cobalt, Dissolved	**27.6**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:16	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/14/14 16:40	07/16/14 11:16	7440-50-8	
Iron, Dissolved	**409000**	ug/L	250	1	07/14/14 16:40	07/16/14 11:16	7439-89-6	
Lead, Dissolved	**39.5**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:16	7439-92-1	
Nickel, Dissolved	**85.6**	ug/L	25.0	1	07/14/14 16:40	07/16/14 11:16	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/14/14 16:40	07/16/14 11:16	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/14/14 16:40	07/16/14 11:16	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/14/14 16:40	07/16/14 11:16	7440-28-0	
Zinc, Dissolved	**6220**	ug/L	500	2	07/14/14 16:40	07/16/14 11:19	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/14/14 16:30	07/15/14 09:21	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/14/14 16:30	07/15/14 09:57	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/14/14 00:00	07/15/14 14:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/14/14 00:00	07/15/14 14:01	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7970**	ug/L	4000	2	07/14/14 00:00	07/15/14 14:01		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Sample: 316-356 **Lab ID: 60173516001** Collected: 07/11/14 07:45 Received: 07/12/14 00:50 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	07/14/14 00:00	07/15/14 14:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	87-86-5	
Phenol	**13300**	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/14/14 00:00	07/15/14 14:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	113	%	33-120	2	07/14/14 00:00	07/15/14 14:01	4165-60-0	
2-Fluorobiphenyl (S)	81	%	39-120	2	07/14/14 00:00	07/15/14 14:01	321-60-8	
Terphenyl-d14 (S)	84	%	45-120	2	07/14/14 00:00	07/15/14 14:01	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	07/14/14 00:00	07/15/14 14:01	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	07/14/14 00:00	07/15/14 14:01	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	2	07/14/14 00:00	07/15/14 14:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**70300**	ug/L	2000	200		07/15/14 17:50	67-64-1	N2
Benzene	ND	ug/L	200	200		07/15/14 17:50	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/15/14 17:50	75-27-4	
Bromoform	ND	ug/L	200	200		07/15/14 17:50	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/15/14 17:50	74-83-9	
2-Butanone (MEK)	**26900**	ug/L	2000	200		07/15/14 17:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/15/14 17:50	56-23-5	
Chloroethane	ND	ug/L	200	200		07/15/14 17:50	75-00-3	
Chloroform	ND	ug/L	200	200		07/15/14 17:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/15/14 17:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/15/14 17:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 17:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 17:50	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/15/14 17:50	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/15/14 17:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/15/14 17:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/15/14 17:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/15/14 17:50	127-18-4	
Toluene	ND	ug/L	200	200		07/15/14 17:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/15/14 17:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/15/14 17:50	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/15/14 17:50	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/15/14 17:50	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/15/14 17:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	200		07/15/14 17:50	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	200		07/15/14 17:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/15/14 17:50	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/15/14 17:50		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**980**	mg/L	5.0	1		07/15/14 14:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Sample: 316-356 **Lab ID: 60173516001** Collected: 07/11/14 07:45 Received: 07/12/14 00:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**69.6**	mg/L	5.0	1		07/15/14 14:29		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3820**	mg/L	5.0	1		07/16/14 09:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/15/14 14:40		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31300**	mg/L	2.0	1	07/12/14 12:00	07/17/14 12:52		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**617**	mg/L	20.0	200		07/16/14 10:08	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56500**	mg/L	5000	500		07/16/14 09:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Sample: TRIP BLANK **Lab ID: 60173516002** Collected: 07/11/14 07:45 Received: 07/12/14 00:50 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		07/15/14 15:37	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/15/14 15:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/15/14 15:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/15/14 15:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/15/14 15:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/15/14 15:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/15/14 15:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/15/14 15:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/15/14 15:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/15/14 15:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/15/14 15:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/15/14 15:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/15/14 15:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/15/14 15:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/15/14 15:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/15/14 15:37	127-18-4	
Toluene	ND	ug/L	1.0	1		07/15/14 15:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/15/14 15:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/15/14 15:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/15/14 15:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		07/15/14 15:37	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		07/15/14 15:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/15/14 15:37	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/15/14 15:37		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: MERP/8587
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173516001

METHOD BLANK: 1410099 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/15/14 09:01	

LABORATORY CONTROL SAMPLE: 1410100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410101 1410102

Parameter	Units	60173391001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.3	4.3	86	86	70-130	0	20	

MATRIX SPIKE SAMPLE: 1410103

Parameter	Units	60173299002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.1	101	70-130	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: MERP/8591
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173516001

METHOD BLANK: 1410189 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/15/14 09:41	

LABORATORY CONTROL SAMPLE: 1410190

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410191 1410192

Parameter	Units	60173405001 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	118	122	79	81	70-130	4	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: MPRP/28033
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173516001

METHOD BLANK: 1410145
Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/16/14 16:19	
Antimony	ug/L	ND	10.0	07/16/14 16:19	
Arsenic	ug/L	ND	10.0	07/16/14 16:19	
Beryllium	ug/L	ND	1.0	07/16/14 16:19	
Cadmium	ug/L	ND	5.0	07/16/14 16:19	
Chromium	ug/L	ND	5.0	07/16/14 16:19	
Cobalt	ug/L	ND	5.0	07/16/14 16:19	
Copper	ug/L	ND	10.0	07/16/14 16:19	
Iron	ug/L	ND	50.0	07/16/14 16:19	
Lead	ug/L	ND	5.0	07/16/14 16:19	
Nickel	ug/L	ND	5.0	07/16/14 16:19	
Selenium	ug/L	ND	15.0	07/16/14 16:19	
Silver	ug/L	ND	7.0	07/16/14 16:19	
Thallium	ug/L	ND	20.0	07/16/14 16:19	
Zinc	ug/L	ND	50.0	07/16/14 16:19	

LABORATORY CONTROL SAMPLE: 1410146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9830	98	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	959	96	85-115	
Beryllium	ug/L	1000	996	100	85-115	
Cadmium	ug/L	1000	983	98	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9990	100	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	991	99	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410147 1410148

Parameter	Units	60173516001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3310	50000	50000	52900	55600	99	105	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5620	5490	111	109	70-130	2	7	
Arsenic	ug/L	1010	5000	5000	6920	6570	118	111	70-130	5	10	
Beryllium	ug/L	ND	5000	5000	4970	4840	99	97	70-130	3	7	
Cadmium	ug/L	ND	5000	5000	5460	5300	109	106	70-130	3	10	
Chromium	ug/L	201	5000	5000	5090	4900	98	94	70-130	4	10	
Cobalt	ug/L	28.6	5000	5000	5020	4900	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5500	5360	110	107	70-130	2	11	
Iron	ug/L	455000	50000	50000	539000	468000	168	25	70-130	14	10	M1,R1
Lead	ug/L	51.4	5000	5000	4730	4660	94	92	70-130	2	10	
Nickel	ug/L	96.2	5000	5000	5040	4910	99	96	70-130	3	10	
Selenium	ug/L	ND	5000	5000	6360	6180	127	124	70-130	3	10	
Silver	ug/L	ND	2500	2500	2730	2630	109	105	70-130	4	10	
Thallium	ug/L	ND	5000	5000	4330	4260	87	85	70-130	1	6	
Zinc	ug/L	7500	5000	5000	12100	11800	92	87	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: MPRP/28037
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173516001

METHOD BLANK: 1410168
Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/16/14 10:57	
Antimony, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Arsenic, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Beryllium, Dissolved	ug/L	ND	1.0	07/16/14 10:57	
Cadmium, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Chromium, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Cobalt, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Copper, Dissolved	ug/L	ND	10.0	07/16/14 10:57	
Iron, Dissolved	ug/L	ND	50.0	07/16/14 10:57	
Lead, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Nickel, Dissolved	ug/L	ND	5.0	07/16/14 10:57	
Selenium, Dissolved	ug/L	ND	15.0	07/16/14 10:57	
Silver, Dissolved	ug/L	ND	7.0	07/16/14 10:57	
Thallium, Dissolved	ug/L	ND	20.0	07/16/14 10:57	
Zinc, Dissolved	ug/L	ND	50.0	07/16/14 10:57	

LABORATORY CONTROL SAMPLE: 1410169

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9340	93	85-115	
Antimony, Dissolved	ug/L	1000	988	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	943	94	85-115	
Cadmium, Dissolved	ug/L	1000	975	97	85-115	
Chromium, Dissolved	ug/L	1000	936	94	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	955	96	85-115	
Iron, Dissolved	ug/L	10000	9550	96	85-115	
Lead, Dissolved	ug/L	1000	975	97	85-115	
Nickel, Dissolved	ug/L	1000	998	100	85-115	
Selenium, Dissolved	ug/L	1000	959	96	85-115	
Silver, Dissolved	ug/L	500	474	95	85-115	
Thallium, Dissolved	ug/L	1000	998	100	85-115	
Zinc, Dissolved	ug/L	1000	950	95	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410170 1410171

Parameter	Units	60173405001 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	2230	50000	50000	48100	49500	92	94	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5200	5260	103	104	70-130	1	7	
Arsenic, Dissolved	ug/L	880	5000	5000	6370	6460	110	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4430	4480	89	90	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5080	5140	101	103	70-130	1	10	
Chromium, Dissolved	ug/L	169	5000	5000	4500	4610	87	89	70-130	2	10	
Cobalt, Dissolved	ug/L	26.2	5000	5000	4720	4760	94	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4970	5080	99	101	70-130	2	11	
Iron, Dissolved	ug/L	421000	50000	50000	477000	488000	112	135	70-130	2	10	M1
Lead, Dissolved	ug/L	34.3	5000	5000	4340	4380	86	87	70-130	1	10	
Nickel, Dissolved	ug/L	83.3	5000	5000	4670	4700	92	92	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5710	5840	114	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2460	2530	98	101	70-130	3	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4100	4110	82	82	70-130	0	6	
Zinc, Dissolved	ug/L	5730	5000	5000	10200	10600	90	97	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: MSV/62991
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60173516001, 60173516002

METHOD BLANK: 1410582
Matrix: Water
Associated Lab Samples: 60173516001, 60173516002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/15/14 14:51	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,2-Dichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/15/14 14:51	
2-Butanone (MEK)	ug/L	ND	10.0	07/15/14 14:51	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/15/14 14:51	N2
Acetone	ug/L	ND	10.0	07/15/14 14:51	N2
Benzene	ug/L	ND	1.0	07/15/14 14:51	
Bromodichloromethane	ug/L	ND	1.0	07/15/14 14:51	
Bromoform	ug/L	ND	1.0	07/15/14 14:51	
Bromomethane	ug/L	ND	5.0	07/15/14 14:51	
Carbon tetrachloride	ug/L	ND	1.0	07/15/14 14:51	
Chloroethane	ug/L	ND	1.0	07/15/14 14:51	
Chloroform	ug/L	ND	1.0	07/15/14 14:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	N2
Ethylbenzene	ug/L	ND	1.0	07/15/14 14:51	
Methylene chloride	ug/L	ND	1.0	07/15/14 14:51	
Tetrachloroethene	ug/L	ND	1.0	07/15/14 14:51	
Toluene	ug/L	ND	1.0	07/15/14 14:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Trichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Vinyl chloride	ug/L	ND	1.0	07/15/14 14:51	
Xylene (Total)	ug/L	ND	3.0	07/15/14 14:51	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/15/14 14:51	
4-Bromofluorobenzene (S)	%	95	80-120	07/15/14 14:51	
Toluene-d8 (S)	%	101	80-120	07/15/14 14:51	

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	99	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	98	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.1	90	59-131	N2
Acetone	ug/L	100	80.5	81	38-134	N2
Benzene	ug/L	20	19.1	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	21.3	106	65-127	
Bromomethane	ug/L	20	11.4	57	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	18.3	91	64-129	
Tetrachloroethene	ug/L	20	19.7	98	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	14.9	75	43-129	
Xylene (Total)	ug/L	60	58.9	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3890	97	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4140	104	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3900	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4070	102	33-140	
2-Butanone (MEK)	ug/L	23300	20000	40200	84	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18400	91	40-160	N2
Acetone	ug/L	62100	20000	81600	98	10-160	N2
Benzene	ug/L	ND	4000	3830	96	37-151	
Bromodichloromethane	ug/L	ND	4000	4050	101	35-142	
Bromoform	ug/L	ND	4000	3850	96	45-142	
Bromomethane	ug/L	ND	4000	1230	31	10-158	
Carbon tetrachloride	ug/L	ND	4000	3940	99	70-140	
Chloroethane	ug/L	ND	4000	4460	111	19-152	
Chloroform	ug/L	ND	4000	3990	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3820	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4230	106	40-142	
Methylene chloride	ug/L	ND	4000	3740	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4240	106	64-148	
Toluene	ug/L	ND	4000	4050	100	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3970	99	54-151	
Trichloroethene	ug/L	ND	4000	4030	101	71-149	
Vinyl chloride	ug/L	ND	4000	3420	85	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12700	105	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: OEXT/45078
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173516001

METHOD BLANK: 1409870
Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/15/14 10:04	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/15/14 10:04	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/15/14 10:04	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/15/14 10:04	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/15/14 10:04	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/15/14 10:04	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/15/14 10:04	
Hexachloroethane	ug/L	ND	5.0	07/15/14 10:04	
Naphthalene	ug/L	ND	5.0	07/15/14 10:04	
Nitrobenzene	ug/L	ND	5.0	07/15/14 10:04	
Pentachlorophenol	ug/L	ND	5.0	07/15/14 10:04	
Phenol	ug/L	ND	5.0	07/15/14 10:04	
2,4,6-Tribromophenol (S)	%	78	39-120	07/15/14 10:04	
2-Fluorobiphenyl (S)	%	77	39-120	07/15/14 10:04	
2-Fluorophenol (S)	%	50	17-120	07/15/14 10:04	
Nitrobenzene-d5 (S)	%	73	33-120	07/15/14 10:04	
Phenol-d6 (S)	%	34	11-120	07/15/14 10:04	
Terphenyl-d14 (S)	%	78	45-120	07/15/14 10:04	

LABORATORY CONTROL SAMPLE: 1409871

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.3	69	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.5	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.0	68	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.8	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	47.6	95	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.8	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	56.0	56	24-120	
Hexachloroethane	ug/L	50	33.1	66	43-113	
Naphthalene	ug/L	50	36.6	73	48-120	
Nitrobenzene	ug/L	50	36.3	73	48-120	
Pentachlorophenol	ug/L	50	44.6	89	47-120	
Phenol	ug/L	50	20.3	41	16-112	
2,4,6-Tribromophenol (S)	%			82	39-120	
2-Fluorobiphenyl (S)	%			79	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			74	33-120	
Phenol-d6 (S)	%			36	11-120	
Terphenyl-d14 (S)	%			82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

MATRIX SPIKE SAMPLE: 1409872

Parameter	Units	60173324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	23.5	47	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	26.6	53	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.0	54	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	25.9	52	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	24.4J	49	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	20.8	42	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	13.4	13	11-120	
Hexachloroethane	ug/L	ND	50	20.6	41	40-113	
Naphthalene	ug/L	ND	50	24.8	50	45-120	
Nitrobenzene	ug/L	ND	50	26.1	52	38-120	
Pentachlorophenol	ug/L	ND	50	34.0	68	43-135	
Phenol	ug/L	ND	50	16.2	32	13-112	
2,4,6-Tribromophenol (S)	%				52	39-120	
2-Fluorobiphenyl (S)	%				52	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				49	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				55	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WET/49041
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173516001

METHOD BLANK: 1410644
Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/15/14 14:19	

LABORATORY CONTROL SAMPLE: 1410645

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

MATRIX SPIKE SAMPLE: 1410646

Parameter	Units	4099413003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	1.0J	41.2	39.2	92	78-114	

SAMPLE DUPLICATE: 1410647

Parameter	Units	60173358001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1.7J	1.6J		18	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WET/49042
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173516001

METHOD BLANK: 1410651 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/15/14 14:28	

LABORATORY CONTROL SAMPLE: 1410652

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.6	113	64-132	

MATRIX SPIKE SAMPLE: 1410653

Parameter	Units	4099413003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	<1.2	20.6	15.6	71	64-132	

SAMPLE DUPLICATE: 1410654

Parameter	Units	60173358001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.5J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WET/49056 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173516001

METHOD BLANK: 1410968 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/16/14 09:27	

SAMPLE DUPLICATE: 1410969

Parameter	Units	60173600001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	11.0	0	10	

SAMPLE DUPLICATE: 1410970

Parameter	Units	60173493001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	106	94.0	12	10	D6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WET/49037
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173516001

SAMPLE DUPLICATE: 1410554

Parameter	Units	60173325001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.8	8.8	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WET/48994 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173516001

METHOD BLANK: 1409811 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/17/14 12:47	

LABORATORY CONTROL SAMPLE: 1409812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	218	110	85-115	

SAMPLE DUPLICATE: 1409813

Parameter	Units	60173518001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	441	447	1	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WETA/30263 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173516001

METHOD BLANK: 1410778 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/16/14 09:38	

LABORATORY CONTROL SAMPLE: 1410779

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

MATRIX SPIKE SAMPLE: 1410780

Parameter	Units	60173291002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.1	99	90-110	

MATRIX SPIKE SAMPLE: 1410781

Parameter	Units	60173295005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	86	90-110	M1

SAMPLE DUPLICATE: 1410782

Parameter	Units	60173295006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

QC Batch: WETA/30232 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173516001

METHOD BLANK: 1410206 Matrix: Water
Associated Lab Samples: 60173516001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/16/14 08:56	

LABORATORY CONTROL SAMPLE: 1410207

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: 1410208

Parameter	Units	60173430004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	7880	5000	12500	93	90-110	

MATRIX SPIKE SAMPLE: 1410210

Parameter	Units	60173458003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4080	2500	6520	98	90-110	

SAMPLE DUPLICATE: 1410209

Parameter	Units	60173462001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2060	2050	0	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-356
Pace Project No.: 60173516

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173516001	**316-356**	EPA 200.7	MPRP/28033	EPA 200.7	ICP/21203
60173516001	**316-356**	EPA 200.7	MPRP/28037	EPA 200.7	ICP/21185
60173516001	**316-356**	EPA 245.1	MERP/8587	EPA 245.1	MERC/8542
60173516001	**316-356**	EPA 245.1	MERP/8591	EPA 245.1	MERC/8543
60173516001	**316-356**	EPA 625	OEXT/45078	EPA 625	MSSV/14447
60173516001	**316-356**	EPA 624 Low	MSV/62991		
60173516002	**TRIP BLANK**	EPA 624 Low	MSV/62991		
60173516001	**316-356**	EPA 1664A	WET/49041		
60173516001	**316-356**	EPA 1664A	WET/49042		
60173516001	**316-356**	SM 2540D	WET/49056		
60173516001	**316-356**	SM 4500-H+B	WET/49037		
60173516001	**316-356**	SM 5210B	WET/48994	SM 5210B	WET/49158
60173516001	**316-356**	EPA 350.1	WETA/30263		
60173516001	**316-356**	EPA 410.4	WETA/30232		

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Sample Condition Upon Receipt

WO#:60173516

60173516

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: [initials] 7/12/14

Item	Yes	No	N/A	Comments
Chain of Custody present:	☑	☐	☐	1.
Chain of Custody filled out:	☑	☐	☐	2.
Chain of Custody relinquished:	☑	☐	☐	3.
Sampler name & signature on COC:	☑	☐	☐	4.
Samples arrived within holding time:	☑	☐	☐	5.
Short Hold Time analyses (<72hr):	☑	☐	☐	6. Bars pH
Rush Turn Around Time requested:	☐	☑	☐	7.
Sufficient volume:	☑	☐	☐	8.
Correct containers used:	☑	☐	☐	
Pace containers used:	☑	☐	☐	9.
Containers intact:	☑	☐	☐	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐	☐	☑	11.
Filtered volume received for dissolved tests?	☐	☑	☐	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑	☐	☐	13.
All containers needing preservation have been checked.	☑	☐	☐	HNO3 initial pH ~6.0; added 2.5 ml; final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐	☑	☐	H2SO4 initial pH ~6.0; added 2 ml; final pH ~3.0 14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑	☐		Initial when completed [initials] / Lot # of added preservative 12513-23-2, 12524-2-5
Trip Blank present: Pace Trip Blank lot # (if purchased): July 07 2014	☑	☐	☐	15.
Headspace in VOA vials (>6mm):	☑	~~☑~~	☐	Headspace in 5 of 5 sample vials 16. -APPLY QUALIFIER PER HYDROMETRICAL INSTRUCTIONS -AG
Project sampled in USDA Regulated Area:	☐	☐	☑	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: 7/14/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60173516 2(BP2U) 2(AE4U) BP3U BP3S 3.0 BP3N 4.0
1	316-356	OT	G	7-11-14	7:30	7-11-14	7:45		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			3(AG3S) 5(DG9U) 001
2	TRIP BLANK								2	2																X						2(DG9U) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Bradley [signature]	7-11	1408	[signature]	7/11/14	1408				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	7/12/14	0850	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: Arron Weber					
SIGNATURE of SAMPLER: Arron Weber	DATE Signed: 7-11-14				

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

July 21, 2014

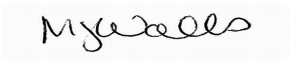
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

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



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173565001	**316-358**	Water	07/13/14 16:20	07/14/14 13:10
60173565002	**TRIP BLANK**	Water	07/13/14 16:20	07/14/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173565001	**316-358**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173565002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Sample: 316-358 **Lab ID: 60173565001** Collected: 07/13/14 16:20 Received: 07/14/14 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	**3470**	ug/L	750	2	07/15/14 16:25	07/16/14 16:48	7429-90-5	
Antimony	**62.6**	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:40	7440-36-0	
Arsenic	**1010**	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:40	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/15/14 16:25	07/16/14 16:40	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:40	7440-43-9	
Chromium	**208**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:40	7440-47-3	
Cobalt	**30.6**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:40	7440-48-4	
Copper	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 16:40	7440-50-8	
Iron	**458000**	ug/L	250	1	07/15/14 16:25	07/16/14 16:40	7439-89-6	
Lead	**49.4**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:40	7439-92-1	
Nickel	**101**	ug/L	25.0	1	07/15/14 16:25	07/16/14 16:40	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/15/14 16:25	07/16/14 16:40	7782-49-2	
Silver	ND	ug/L	35.0	1	07/15/14 16:25	07/16/14 16:40	7440-22-4	
Thallium	ND	ug/L	200	2	07/15/14 16:25	07/16/14 16:48	7440-28-0	D3
Zinc	**7080**	ug/L	500	2	07/15/14 16:25	07/16/14 16:48	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1910**	ug/L	750	2	07/15/14 16:25	07/16/14 11:35	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:33	7440-36-0	
Arsenic, Dissolved	**785**	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:33	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/15/14 16:25	07/16/14 11:33	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:33	7440-43-9	
Chromium, Dissolved	**150**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:33	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:33	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:33	7440-50-8	
Iron, Dissolved	**349000**	ug/L	250	1	07/15/14 16:25	07/16/14 11:33	7439-89-6	M1
Lead, Dissolved	**44.0**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:33	7439-92-1	
Nickel, Dissolved	**81.3**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:33	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/15/14 16:25	07/16/14 11:33	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/15/14 16:25	07/16/14 11:33	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/15/14 16:25	07/16/14 11:33	7440-28-0	
Zinc, Dissolved	**5410**	ug/L	500	2	07/15/14 16:25	07/16/14 11:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/15/14 15:15	07/16/14 09:26	7439-97-6	M1
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/15/14 15:15	07/16/14 09:13	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/16/14 00:00	07/17/14 09:48	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/16/14 00:00	07/17/14 09:48	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6660**	ug/L	4000	2	07/16/14 00:00	07/17/14 09:48		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Sample: 316-358 **Lab ID: 60173565001** Collected: 07/13/14 16:20 Received: 07/14/14 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	07/16/14 00:00	07/17/14 09:48	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	87-86-5	
Phenol	**9840**	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 09:48	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	07/16/14 00:00	07/17/14 09:48	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	2	07/16/14 00:00	07/17/14 09:48	321-60-8	
Terphenyl-d14 (S)	81	%	45-120	2	07/16/14 00:00	07/17/14 09:48	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/16/14 00:00	07/17/14 09:48	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	07/16/14 00:00	07/17/14 09:48	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	07/16/14 00:00	07/17/14 09:48	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**68400**	ug/L	2000	200		07/15/14 18:21	67-64-1	N2
Benzene	ND	ug/L	200	200		07/15/14 18:21	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/15/14 18:21	75-27-4	
Bromoform	ND	ug/L	200	200		07/15/14 18:21	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/15/14 18:21	74-83-9	
2-Butanone (MEK)	**26300**	ug/L	2000	200		07/15/14 18:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/15/14 18:21	56-23-5	
Chloroethane	ND	ug/L	200	200		07/15/14 18:21	75-00-3	
Chloroform	ND	ug/L	200	200		07/15/14 18:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/15/14 18:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/15/14 18:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 18:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 18:21	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/15/14 18:21	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/15/14 18:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/15/14 18:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/15/14 18:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/15/14 18:21	127-18-4	
Toluene	ND	ug/L	200	200		07/15/14 18:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/15/14 18:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/15/14 18:21	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/15/14 18:21	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/15/14 18:21	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/15/14 18:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/15/14 18:21	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		07/15/14 18:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/15/14 18:21	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/15/14 18:21		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**754**	mg/L	5.0	1		07/17/14 16:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Sample: 316-358 **Lab ID: 60173565001** Collected: 07/13/14 16:20 Received: 07/14/14 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	**10.8**	mg/L	5.0	1		07/17/14 16:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2160**	mg/L	5.0	1		07/17/14 11:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/15/14 16:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30500**	mg/L	2.0	1	07/14/14 16:23	07/19/14 08:09		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**629**	mg/L	20.0	200		07/16/14 10:11	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54700**	mg/L	5000	500		07/17/14 10:04		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

Sample: TRIP BLANK **Lab ID: 60173565002** Collected: 07/13/14 16:20 Received: 07/14/14 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		07/16/14 12:48	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/16/14 12:48	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/16/14 12:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/16/14 12:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/16/14 12:48	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/16/14 12:48	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/16/14 12:48	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/16/14 12:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/16/14 12:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/16/14 12:48	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/14 12:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 12:48	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 12:48	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/14 12:48	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/16/14 12:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/16/14 12:48	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/16/14 12:48	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/16/14 12:48	127-18-4	
Toluene	ND	ug/L	1.0	1		07/16/14 12:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/16/14 12:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/16/14 12:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/16/14 12:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/16/14 12:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/16/14 12:48	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	1		07/16/14 12:48	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		07/16/14 12:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		07/16/14 12:48	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/16/14 12:48		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MERP/8595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173565001

METHOD BLANK: 1410742 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/16/14 09:22	

LABORATORY CONTROL SAMPLE: 1410743

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: 1410744 1410745

Parameter	Units	60173565001 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	112	91.8	74	61	70-130	19	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MERP/8594
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173565001

METHOD BLANK: 1410738 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/16/14 09:08	

LABORATORY CONTROL SAMPLE: 1410739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410740 1410741

Parameter	Units	60173565001 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	94.5	94.8	63	63	70-130	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MPRP/28033
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173565001

METHOD BLANK: 1410145
Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/16/14 16:19	
Antimony	ug/L	ND	10.0	07/16/14 16:19	
Arsenic	ug/L	ND	10.0	07/16/14 16:19	
Beryllium	ug/L	ND	1.0	07/16/14 16:19	
Cadmium	ug/L	ND	5.0	07/16/14 16:19	
Chromium	ug/L	ND	5.0	07/16/14 16:19	
Cobalt	ug/L	ND	5.0	07/16/14 16:19	
Copper	ug/L	ND	10.0	07/16/14 16:19	
Iron	ug/L	ND	50.0	07/16/14 16:19	
Lead	ug/L	ND	5.0	07/16/14 16:19	
Nickel	ug/L	ND	5.0	07/16/14 16:19	
Selenium	ug/L	ND	15.0	07/16/14 16:19	
Silver	ug/L	ND	7.0	07/16/14 16:19	
Thallium	ug/L	ND	20.0	07/16/14 16:19	
Zinc	ug/L	ND	50.0	07/16/14 16:19	

LABORATORY CONTROL SAMPLE: 1410146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9830	98	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	959	96	85-115	
Beryllium	ug/L	1000	996	100	85-115	
Cadmium	ug/L	1000	983	98	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9990	100	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	991	99	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410147 1410148

Parameter	Units	60173516001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3310	50000	50000	52900	55600	99	105	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5620	5490	111	109	70-130	2	7	
Arsenic	ug/L	1010	5000	5000	6920	6570	118	111	70-130	5	10	
Beryllium	ug/L	ND	5000	5000	4970	4840	99	97	70-130	3	7	
Cadmium	ug/L	ND	5000	5000	5460	5300	109	106	70-130	3	10	
Chromium	ug/L	201	5000	5000	5090	4900	98	94	70-130	4	10	
Cobalt	ug/L	28.6	5000	5000	5020	4900	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5500	5360	110	107	70-130	2	11	
Iron	ug/L	455000	50000	50000	539000	468000	168	25	70-130	14	10	M1,R1
Lead	ug/L	51.4	5000	5000	4730	4660	94	92	70-130	2	10	
Nickel	ug/L	96.2	5000	5000	5040	4910	99	96	70-130	3	10	
Selenium	ug/L	ND	5000	5000	6360	6180	127	124	70-130	3	10	
Silver	ug/L	ND	2500	2500	2730	2630	109	105	70-130	4	10	
Thallium	ug/L	ND	5000	5000	4330	4260	87	85	70-130	1	6	
Zinc	ug/L	7500	5000	5000	12100	11800	92	87	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MPRP/28054
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173565001

METHOD BLANK: 1410606
Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/16/14 11:28	
Antimony, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Arsenic, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Beryllium, Dissolved	ug/L	ND	1.0	07/16/14 11:28	
Cadmium, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Chromium, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Cobalt, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Copper, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Iron, Dissolved	ug/L	ND	50.0	07/16/14 11:28	
Lead, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Nickel, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Selenium, Dissolved	ug/L	ND	15.0	07/16/14 11:28	
Silver, Dissolved	ug/L	ND	7.0	07/16/14 11:28	
Thallium, Dissolved	ug/L	ND	20.0	07/16/14 11:28	
Zinc, Dissolved	ug/L	ND	50.0	07/16/14 11:28	

LABORATORY CONTROL SAMPLE: 1410607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9000	90	85-115	
Antimony, Dissolved	ug/L	1000	965	96	85-115	
Arsenic, Dissolved	ug/L	1000	941	94	85-115	
Beryllium, Dissolved	ug/L	1000	903	90	85-115	
Cadmium, Dissolved	ug/L	1000	955	96	85-115	
Chromium, Dissolved	ug/L	1000	910	91	85-115	
Cobalt, Dissolved	ug/L	1000	991	99	85-115	
Copper, Dissolved	ug/L	1000	919	92	85-115	
Iron, Dissolved	ug/L	10000	9300	93	85-115	
Lead, Dissolved	ug/L	1000	952	95	85-115	
Nickel, Dissolved	ug/L	1000	976	98	85-115	
Selenium, Dissolved	ug/L	1000	933	93	85-115	
Silver, Dissolved	ug/L	500	460	92	85-115	
Thallium, Dissolved	ug/L	1000	978	98	85-115	
Zinc, Dissolved	ug/L	1000	937	94	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410608 1410609

Parameter	Units	60173565001 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	1910	50000	50000	47300	47700	91	92	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5070	5100	101	101	70-130	1	7	
Arsenic, Dissolved	ug/L	785	5000	5000	6040	6160	105	108	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4310	4380	86	88	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5020	5080	100	101	70-130	1	10	
Chromium, Dissolved	ug/L	150	5000	5000	4520	4570	87	88	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4740	4760	94	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4910	4910	97	97	70-130	0	11	
Iron, Dissolved	ug/L	349000	50000	50000	370000	401000	43	104	70-130	8	10	M1
Lead, Dissolved	ug/L	44.0	5000	5000	4340	4350	86	86	70-130	0	10	
Nickel, Dissolved	ug/L	81.3	5000	5000	4630	4650	91	91	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5550	5610	111	112	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2450	2470	97	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4150	4140	83	83	70-130	0	6	
Zinc, Dissolved	ug/L	5410	5000	5000	9740	10200	86	96	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MSV/62991
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60173565001

METHOD BLANK: 1410582
Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/15/14 14:51	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,2-Dichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/15/14 14:51	
2-Butanone (MEK)	ug/L	ND	10.0	07/15/14 14:51	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/15/14 14:51	N2
Acetone	ug/L	ND	10.0	07/15/14 14:51	N2
Benzene	ug/L	ND	1.0	07/15/14 14:51	
Bromodichloromethane	ug/L	ND	1.0	07/15/14 14:51	
Bromoform	ug/L	ND	1.0	07/15/14 14:51	
Bromomethane	ug/L	ND	5.0	07/15/14 14:51	
Carbon tetrachloride	ug/L	ND	1.0	07/15/14 14:51	
Chloroethane	ug/L	ND	1.0	07/15/14 14:51	
Chloroform	ug/L	ND	1.0	07/15/14 14:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	N2
Ethylbenzene	ug/L	ND	1.0	07/15/14 14:51	
Methylene chloride	ug/L	ND	1.0	07/15/14 14:51	
Tetrachloroethene	ug/L	ND	1.0	07/15/14 14:51	
Toluene	ug/L	ND	1.0	07/15/14 14:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Trichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Vinyl chloride	ug/L	ND	1.0	07/15/14 14:51	
Xylene (Total)	ug/L	ND	3.0	07/15/14 14:51	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/15/14 14:51	
4-Bromofluorobenzene (S)	%	95	80-120	07/15/14 14:51	
Toluene-d8 (S)	%	101	80-120	07/15/14 14:51	

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	99	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	98	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.1	90	59-131	N2
Acetone	ug/L	100	80.5	81	38-134	N2
Benzene	ug/L	20	19.1	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	21.3	106	65-127	
Bromomethane	ug/L	20	11.4	57	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	18.3	91	64-129	
Tetrachloroethene	ug/L	20	19.7	98	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	14.9	75	43-129	
Xylene (Total)	ug/L	60	58.9	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3890	97	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4140	104	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3900	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4070	102	33-140	
2-Butanone (MEK)	ug/L	23300	20000	40200	84	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18400	91	40-160	N2
Acetone	ug/L	62100	20000	81600	98	10-160	N2
Benzene	ug/L	ND	4000	3830	96	37-151	
Bromodichloromethane	ug/L	ND	4000	4050	101	35-142	
Bromoform	ug/L	ND	4000	3850	96	45-142	
Bromomethane	ug/L	ND	4000	1230	31	10-158	
Carbon tetrachloride	ug/L	ND	4000	3940	99	70-140	
Chloroethane	ug/L	ND	4000	4460	111	19-152	
Chloroform	ug/L	ND	4000	3990	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3820	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4230	106	40-142	
Methylene chloride	ug/L	ND	4000	3740	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4240	106	64-148	
Toluene	ug/L	ND	4000	4050	100	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3970	99	54-151	
Trichloroethene	ug/L	ND	4000	4030	101	71-149	
Vinyl chloride	ug/L	ND	4000	3420	85	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12700	105	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: MSV/63006 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173565002

METHOD BLANK: 1411040 Matrix: Water
Associated Lab Samples: 60173565002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/16/14 12:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,2-Dichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/16/14 12:17	
2-Butanone (MEK)	ug/L	ND	10.0	07/16/14 12:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/16/14 12:17	N2
Acetone	ug/L	ND	10.0	07/16/14 12:17	N2
Benzene	ug/L	ND	1.0	07/16/14 12:17	
Bromodichloromethane	ug/L	ND	1.0	07/16/14 12:17	
Bromoform	ug/L	ND	1.0	07/16/14 12:17	
Bromomethane	ug/L	ND	5.0	07/16/14 12:17	
Carbon tetrachloride	ug/L	ND	1.0	07/16/14 12:17	
Chloroethane	ug/L	ND	1.0	07/16/14 12:17	
Chloroform	ug/L	ND	1.0	07/16/14 12:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	N2
Ethylbenzene	ug/L	ND	1.0	07/16/14 12:17	
Methylene chloride	ug/L	ND	1.0	07/16/14 12:17	
Tetrachloroethene	ug/L	ND	1.0	07/16/14 12:17	
Toluene	ug/L	ND	1.0	07/16/14 12:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Trichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Vinyl chloride	ug/L	ND	1.0	07/16/14 12:17	
Xylene (Total)	ug/L	ND	3.0	07/16/14 12:17	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	07/16/14 12:17	
4-Bromofluorobenzene (S)	%	95	80-120	07/16/14 12:17	
Toluene-d8 (S)	%	102	80-120	07/16/14 12:17	

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	105	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.7	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.8	104	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.3	95	59-131	N2
Acetone	ug/L	100	80.0	80	38-134	N2
Benzene	ug/L	20	19.6	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.0	105	68-125	
Bromoform	ug/L	20	21.6	108	65-127	
Bromomethane	ug/L	20	12.4	62	13-157	
Carbon tetrachloride	ug/L	20	20.6	103	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	20.5	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.8	104	74-122	
Methylene chloride	ug/L	20	19.4	97	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	20.1	100	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	66-129	
Trichloroethene	ug/L	20	19.9	100	71-123	
Vinyl chloride	ug/L	20	15.2	76	43-129	
Xylene (Total)	ug/L	60	60.1	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4180	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3470	87	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3680	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3650	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	23800	20000	38300	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16800	83	40-160	N2
Acetone	ug/L	65800	20000	78900	65	10-160	N2
Benzene	ug/L	ND	4000	3650	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-142	
Bromoform	ug/L	ND	4000	3790	95	45-142	
Bromomethane	ug/L	ND	4000	2200	55	10-158	
Carbon tetrachloride	ug/L	ND	4000	4360	109	70-140	
Chloroethane	ug/L	ND	4000	3760	94	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	4030	101	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4140	104	64-148	
Toluene	ug/L	ND	4000	3770	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3880	97	54-151	
Trichloroethene	ug/L	ND	4000	3820	95	71-149	
Vinyl chloride	ug/L	ND	4000	3170	79	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11800	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	HS
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: OEXT/45116
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173565001

METHOD BLANK: 1410840
Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/17/14 08:46	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/17/14 08:46	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/17/14 08:46	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/17/14 08:46	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/17/14 08:46	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/17/14 08:46	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/17/14 08:46	
Hexachloroethane	ug/L	ND	5.0	07/17/14 08:46	
Naphthalene	ug/L	ND	5.0	07/17/14 08:46	
Nitrobenzene	ug/L	ND	5.0	07/17/14 08:46	
Pentachlorophenol	ug/L	ND	5.0	07/17/14 08:46	
Phenol	ug/L	ND	5.0	07/17/14 08:46	
2,4,6-Tribromophenol (S)	%	91	39-120	07/17/14 08:46	
2-Fluorobiphenyl (S)	%	89	39-120	07/17/14 08:46	
2-Fluorophenol (S)	%	53	17-120	07/17/14 08:46	
Nitrobenzene-d5 (S)	%	87	33-120	07/17/14 08:46	
Phenol-d6 (S)	%	34	11-120	07/17/14 08:46	
Terphenyl-d14 (S)	%	90	45-120	07/17/14 08:46	

LABORATORY CONTROL SAMPLE: 1410841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.0	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.3	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.0	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.9	66	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.4	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	34.5	69	44-116	
Hexachlorocyclopentadiene	ug/L	100	66.4	66	24-120	
Hexachloroethane	ug/L	50	34.9	70	43-113	
Naphthalene	ug/L	50	39.7	79	48-120	
Nitrobenzene	ug/L	50	40.1	80	48-120	
Pentachlorophenol	ug/L	50	46.4	93	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			85	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			77	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

MATRIX SPIKE SAMPLE: 1410842

Parameter	Units	60173565001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3700	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4540	91	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4310	86	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6660	5000	10800	83	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4920J	98	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3460	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7410	74	11-120	
Hexachloroethane	ug/L	ND	5000	3790	76	40-113	
Naphthalene	ug/L	ND	5000	4280	86	45-120	
Nitrobenzene	ug/L	ND	5000	4010	80	38-120	
Pentachlorophenol	ug/L	ND	5000	5420	108	43-135	
Phenol	ug/L	9840	5000	13000	64	13-112	
2,4,6-Tribromophenol (S)	%				91	39-120	
2-Fluorobiphenyl (S)	%				85	39-120	
2-Fluorophenol (S)	%				50	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				36	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WET/49095 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173565001

METHOD BLANK: 1412039 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/17/14 16:16	

LABORATORY CONTROL SAMPLE: 1412040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.8	84	78-114	

MATRIX SPIKE SAMPLE: 1412041

Parameter	Units	60173178002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	5.1	47.1	42.6	80	78-114	

SAMPLE DUPLICATE: 1412042

Parameter	Units	60173178004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	745	856	14	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WET/49096 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173565001

METHOD BLANK: 1412053 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/17/14 16:21	

LABORATORY CONTROL SAMPLE: 1412054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.0	110	64-132	

MATRIX SPIKE SAMPLE: 1412055

Parameter	Units	60173178002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.5	17.1	65	64-132	

SAMPLE DUPLICATE: 1412056

Parameter	Units	60173178004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.7	7.7	12	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WET/49086
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173565001

METHOD BLANK: 1411640 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/17/14 11:33	

SAMPLE DUPLICATE: 1411641

Parameter	Units	60173657001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12000	8880	30	10	D6

SAMPLE DUPLICATE: 1411642

Parameter	Units	60173618001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	349	394	12	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WET/49038
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173565001

SAMPLE DUPLICATE: 1410555

Parameter	Units	60173526001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.0	4.9	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WET/49012 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173565001

METHOD BLANK: 1410161 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/19/14 07:53	

LABORATORY CONTROL SAMPLE: 1410162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	188	95	85-115	

SAMPLE DUPLICATE: 1410163

Parameter	Units	60173560002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	498	449	10	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WETA/30263 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173565001

METHOD BLANK: 1410778 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/16/14 09:38	

LABORATORY CONTROL SAMPLE: 1410779

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

MATRIX SPIKE SAMPLE: 1410780

Parameter	Units	60173291002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.1	99	90-110	

MATRIX SPIKE SAMPLE: 1410781

Parameter	Units	60173295005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	86	90-110	M1

SAMPLE DUPLICATE: 1410782

Parameter	Units	60173295006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

QC Batch: WETA/30266
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173565001

METHOD BLANK: 1410868 Matrix: Water
Associated Lab Samples: 60173565001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/17/14 09:54	

LABORATORY CONTROL SAMPLE: 1410869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1410870

Parameter	Units	60173458013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14900	5000	19300	87	90-110	M1

MATRIX SPIKE SAMPLE: 1410872

Parameter	Units	60173566001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58300	25000	79400	84	90-110	M1

SAMPLE DUPLICATE: 1410871

Parameter	Units	60173458015 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1830	1780	3	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-358
Pace Project No.: 60173565

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
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 316-358
Pace Project No.: 60173565

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173565001	**316-358**	EPA 200.7	MPRP/28033	EPA 200.7	ICP/21203
60173565001	**316-358**	EPA 200.7	MPRP/28054	EPA 200.7	ICP/21202
60173565001	**316-358**	EPA 245.1	MERP/8595	EPA 245.1	MERC/8550
60173565001	**316-358**	EPA 245.1	MERP/8594	EPA 245.1	MERC/8549
60173565001	**316-358**	EPA 625	OEXT/45116	EPA 625	MSSV/14461
60173565001	**316-358**	EPA 624 Low	MSV/62991		
60173565002	**TRIP BLANK**	EPA 624 Low	MSV/63006		
60173565001	**316-358**	EPA 1664A	WET/49095		
60173565001	**316-358**	EPA 1664A	WET/49096		
60173565001	**316-358**	SM 2540D	WET/49086		
60173565001	**316-358**	SM 4500-H+B	WET/49038		
60173565001	**316-358**	SM 5210B	WET/49012	SM 5210B	WET/49145
60173565001	**316-358**	EPA 350.1	WETA/30263		
60173565001	**316-358**	EPA 410.4	WETA/30266		

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Sample Condition Upon Receipt

WO# : 60173565

60173565

Client Name: Barr

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 ☒ 2 PLC

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

Cooler Temperature: 1.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 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:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BOSS initial 4.0 added 1mL Final pH 4.0 DOSN initial 5.0 added 2.5mL Final pH 4.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 2/7/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency:

State / Location: Missouri

Requested Analysis Filtered (Y/N)

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

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

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60173565 (2)AG4U
1	316-358 (2)BP2U BP3U BP3N BP3S 4.5 4.5	OT	G	7-13-14	4:15	7-13-14	4:30		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		(3)AG3S ~~(4)AG4U~~ (5)DG4U JD 7/14 001
2	TRIP BLANK (2)DG4U								2	2																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	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] FST	7-14-14	8:50am	[signature]	~~7-14-14~~	~~0850~~	~~1.4~~	~~Y~~	~~Y~~	~~Y~~ JD 7/14
SITE ADDRESS: BRIDGETON LF				[signature] Pace	7/14	1310	1.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Aaron Weber

SIGNATURE of SAMPLER: Aaron Weber DATE Signed: 7-13-14

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

July 21, 2014

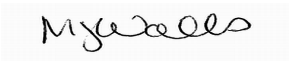
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

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



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

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
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173566001	**316-357**	Water	07/12/14 07:45	07/14/14 13:10
60173566002	**TRIP BLANK**	Water	07/12/14 07:45	07/14/14 13:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173566001	**316-357**	EPA 200.7	SMW	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173566002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Sample: 316-357 **Lab ID: 60173566001** Collected: 07/12/14 07:45 Received: 07/14/14 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	**9860**	ug/L	750	2	07/15/14 16:25	07/16/14 16:52	7429-90-5	
Antimony	**55.2**	ug/L	50.0	1	07/15/14 16:25	07/16/14 17:26	7440-36-0	
Arsenic	**1290**	ug/L	50.0	1	07/15/14 16:25	07/16/14 17:26	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/15/14 16:25	07/16/14 17:26	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 17:26	7440-43-9	
Chromium	**281**	ug/L	25.0	1	07/15/14 16:25	07/16/14 17:26	7440-47-3	
Cobalt	**43.9**	ug/L	25.0	1	07/15/14 16:25	07/16/14 17:26	7440-48-4	
Copper	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 17:26	7440-50-8	
Iron	**940000**	ug/L	250	1	07/15/14 16:25	07/16/14 17:26	7439-89-6	
Lead	**154**	ug/L	25.0	1	07/15/14 16:25	07/16/14 17:26	7439-92-1	
Nickel	**125**	ug/L	25.0	1	07/15/14 16:25	07/16/14 17:26	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/15/14 16:25	07/16/14 17:26	7782-49-2	
Silver	ND	ug/L	35.0	1	07/15/14 16:25	07/16/14 17:26	7440-22-4	
Thallium	ND	ug/L	200	2	07/15/14 16:25	07/16/14 16:52	7440-28-0	D3
Zinc	**8250**	ug/L	500	2	07/15/14 16:25	07/16/14 16:52	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2110**	ug/L	750	2	07/15/14 16:25	07/16/14 11:50	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:47	7440-36-0	
Arsenic, Dissolved	**860**	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:47	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/15/14 16:25	07/16/14 11:47	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:47	7440-43-9	
Chromium, Dissolved	**166**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:47	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:47	7440-48-4	
Copper, Dissolved	**63.4**	ug/L	50.0	1	07/15/14 16:25	07/16/14 11:47	7440-50-8	D9
Iron, Dissolved	**382000**	ug/L	250	1	07/15/14 16:25	07/16/14 11:47	7439-89-6	
Lead, Dissolved	**30.6**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:47	7439-92-1	
Nickel, Dissolved	**82.8**	ug/L	25.0	1	07/15/14 16:25	07/16/14 11:47	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/15/14 16:25	07/16/14 11:47	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/15/14 16:25	07/16/14 11:47	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/15/14 16:25	07/16/14 11:47	7440-28-0	
Zinc, Dissolved	**6120**	ug/L	500	2	07/15/14 16:25	07/16/14 11:50	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/15/14 15:15	07/16/14 09:37	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/15/14 15:15	07/16/14 09:19	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/16/14 00:00	07/17/14 10:09	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/16/14 00:00	07/17/14 10:09	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7140**	ug/L	4000	2	07/16/14 00:00	07/17/14 10:09		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Sample: 316-357 **Lab ID: 60173566001** Collected: 07/12/14 07:45 Received: 07/14/14 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	07/16/14 00:00	07/17/14 10:09	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	87-86-5	
Phenol	**10600**	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/16/14 00:00	07/17/14 10:09	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	115	%	33-120	2	07/16/14 00:00	07/17/14 10:09	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	2	07/16/14 00:00	07/17/14 10:09	321-60-8	
Terphenyl-d14 (S)	84	%	45-120	2	07/16/14 00:00	07/17/14 10:09	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	07/16/14 00:00	07/17/14 10:09	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	07/16/14 00:00	07/17/14 10:09	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	07/16/14 00:00	07/17/14 10:09	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**70500**	ug/L	2000	200		07/15/14 18:06	67-64-1	N2
Benzene	ND	ug/L	200	200		07/15/14 18:06	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/15/14 18:06	75-27-4	
Bromoform	ND	ug/L	200	200		07/15/14 18:06	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/15/14 18:06	74-83-9	
2-Butanone (MEK)	**28000**	ug/L	2000	200		07/15/14 18:06	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/15/14 18:06	56-23-5	
Chloroethane	ND	ug/L	200	200		07/15/14 18:06	75-00-3	
Chloroform	ND	ug/L	200	200		07/15/14 18:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/15/14 18:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/15/14 18:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 18:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/15/14 18:06	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/15/14 18:06	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/15/14 18:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/15/14 18:06	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/15/14 18:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/15/14 18:06	127-18-4	
Toluene	ND	ug/L	200	200		07/15/14 18:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/15/14 18:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/15/14 18:06	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/15/14 18:06	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/15/14 18:06	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/15/14 18:06	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		07/15/14 18:06	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		07/15/14 18:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/15/14 18:06	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/15/14 18:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**767**	mg/L	5.0	1		07/17/14 16:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Sample: 316-357 **Lab ID: 60173566001** Collected: 07/12/14 07:45 Received: 07/14/14 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	**10.8**	mg/L	5.0	1		07/17/14 16:22		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3120**	mg/L	5.0	1		07/16/14 09:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/15/14 14:40		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30700**	mg/L	2.0	1	07/14/14 16:16	07/19/14 07:59		H3
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**633**	mg/L	20.0	200		07/16/14 10:12	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**58300**	mg/L	5000	500		07/17/14 10:04		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

Sample: TRIP BLANK **Lab ID: 60173566002** Collected: 07/12/14 07:45 Received: 07/14/14 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		07/15/14 15:52	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/15/14 15:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/15/14 15:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/15/14 15:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/15/14 15:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/15/14 15:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/15/14 15:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/15/14 15:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/15/14 15:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/15/14 15:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/15/14 15:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/15/14 15:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/15/14 15:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/15/14 15:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/15/14 15:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/15/14 15:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/15/14 15:52	127-18-4	
Toluene	ND	ug/L	1.0	1		07/15/14 15:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/15/14 15:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/15/14 15:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/15/14 15:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/15/14 15:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	1		07/15/14 15:52	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		07/15/14 15:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		07/15/14 15:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/15/14 15:52		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: MERP/8595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173566001

METHOD BLANK: 1410742 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/16/14 09:22	

LABORATORY CONTROL SAMPLE: 1410743

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: 1410744 1410745

Parameter	Units	60173565001 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	112	91.8	74	61	70-130	19	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: MERP/8594
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173566001

METHOD BLANK: 1410738 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/16/14 09:08	

LABORATORY CONTROL SAMPLE: 1410739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410740 1410741

Parameter	Units	60173565001 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	94.5	94.8	63	63	70-130	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: MPRP/28033
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173566001

METHOD BLANK: 1410145
Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/16/14 16:19	
Antimony	ug/L	ND	10.0	07/16/14 16:19	
Arsenic	ug/L	ND	10.0	07/16/14 16:19	
Beryllium	ug/L	ND	1.0	07/16/14 16:19	
Cadmium	ug/L	ND	5.0	07/16/14 16:19	
Chromium	ug/L	ND	5.0	07/16/14 16:19	
Cobalt	ug/L	ND	5.0	07/16/14 16:19	
Copper	ug/L	ND	10.0	07/16/14 16:19	
Iron	ug/L	ND	50.0	07/16/14 16:19	
Lead	ug/L	ND	5.0	07/16/14 16:19	
Nickel	ug/L	ND	5.0	07/16/14 16:19	
Selenium	ug/L	ND	15.0	07/16/14 16:19	
Silver	ug/L	ND	7.0	07/16/14 16:19	
Thallium	ug/L	ND	20.0	07/16/14 16:19	
Zinc	ug/L	ND	50.0	07/16/14 16:19	

LABORATORY CONTROL SAMPLE: 1410146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9830	98	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	959	96	85-115	
Beryllium	ug/L	1000	996	100	85-115	
Cadmium	ug/L	1000	983	98	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9990	100	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	991	99	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410147 1410148

Parameter	Units	60173516001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	3310	50000	50000	52900	55600	99	105	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5620	5490	111	109	70-130	2	7	
Arsenic	ug/L	1010	5000	5000	6920	6570	118	111	70-130	5	10	
Beryllium	ug/L	ND	5000	5000	4970	4840	99	97	70-130	3	7	
Cadmium	ug/L	ND	5000	5000	5460	5300	109	106	70-130	3	10	
Chromium	ug/L	201	5000	5000	5090	4900	98	94	70-130	4	10	
Cobalt	ug/L	28.6	5000	5000	5020	4900	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5500	5360	110	107	70-130	2	11	
Iron	ug/L	455000	50000	50000	539000	468000	168	25	70-130	14	10	M1,R1
Lead	ug/L	51.4	5000	5000	4730	4660	94	92	70-130	2	10	
Nickel	ug/L	96.2	5000	5000	5040	4910	99	96	70-130	3	10	
Selenium	ug/L	ND	5000	5000	6360	6180	127	124	70-130	3	10	
Silver	ug/L	ND	2500	2500	2730	2630	109	105	70-130	4	10	
Thallium	ug/L	ND	5000	5000	4330	4260	87	85	70-130	1	6	
Zinc	ug/L	7500	5000	5000	12100	11800	92	87	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: MPRP/28054
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173566001

METHOD BLANK: 1410606
Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/16/14 11:28	
Antimony, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Arsenic, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Beryllium, Dissolved	ug/L	ND	1.0	07/16/14 11:28	
Cadmium, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Chromium, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Cobalt, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Copper, Dissolved	ug/L	ND	10.0	07/16/14 11:28	
Iron, Dissolved	ug/L	ND	50.0	07/16/14 11:28	
Lead, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Nickel, Dissolved	ug/L	ND	5.0	07/16/14 11:28	
Selenium, Dissolved	ug/L	ND	15.0	07/16/14 11:28	
Silver, Dissolved	ug/L	ND	7.0	07/16/14 11:28	
Thallium, Dissolved	ug/L	ND	20.0	07/16/14 11:28	
Zinc, Dissolved	ug/L	ND	50.0	07/16/14 11:28	

LABORATORY CONTROL SAMPLE: 1410607

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9000	90	85-115	
Antimony, Dissolved	ug/L	1000	965	96	85-115	
Arsenic, Dissolved	ug/L	1000	941	94	85-115	
Beryllium, Dissolved	ug/L	1000	903	90	85-115	
Cadmium, Dissolved	ug/L	1000	955	96	85-115	
Chromium, Dissolved	ug/L	1000	910	91	85-115	
Cobalt, Dissolved	ug/L	1000	991	99	85-115	
Copper, Dissolved	ug/L	1000	919	92	85-115	
Iron, Dissolved	ug/L	10000	9300	93	85-115	
Lead, Dissolved	ug/L	1000	952	95	85-115	
Nickel, Dissolved	ug/L	1000	976	98	85-115	
Selenium, Dissolved	ug/L	1000	933	93	85-115	
Silver, Dissolved	ug/L	500	460	92	85-115	
Thallium, Dissolved	ug/L	1000	978	98	85-115	
Zinc, Dissolved	ug/L	1000	937	94	85-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1410608 1410609

Parameter	Units	60173565001 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	1910	50000	50000	47300	47700	91	92	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5070	5100	101	101	70-130	1	7	
Arsenic, Dissolved	ug/L	785	5000	5000	6040	6160	105	108	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4310	4380	86	88	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5020	5080	100	101	70-130	1	10	
Chromium, Dissolved	ug/L	150	5000	5000	4520	4570	87	88	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4740	4760	94	95	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	4910	4910	97	97	70-130	0	11	
Iron, Dissolved	ug/L	349000	50000	50000	370000	401000	43	104	70-130	8	10	M1
Lead, Dissolved	ug/L	44.0	5000	5000	4340	4350	86	86	70-130	0	10	
Nickel, Dissolved	ug/L	81.3	5000	5000	4630	4650	91	91	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5550	5610	111	112	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2450	2470	97	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4150	4140	83	83	70-130	0	6	
Zinc, Dissolved	ug/L	5410	5000	5000	9740	10200	86	96	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: MSV/62991
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60173566001, 60173566002

METHOD BLANK: 1410582
Matrix: Water
Associated Lab Samples: 60173566001, 60173566002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/15/14 14:51	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,2-Dichloroethane	ug/L	ND	1.0	07/15/14 14:51	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/15/14 14:51	
2-Butanone (MEK)	ug/L	ND	10.0	07/15/14 14:51	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/15/14 14:51	N2
Acetone	ug/L	ND	10.0	07/15/14 14:51	N2
Benzene	ug/L	ND	1.0	07/15/14 14:51	
Bromodichloromethane	ug/L	ND	1.0	07/15/14 14:51	
Bromoform	ug/L	ND	1.0	07/15/14 14:51	
Bromomethane	ug/L	ND	5.0	07/15/14 14:51	
Carbon tetrachloride	ug/L	ND	1.0	07/15/14 14:51	
Chloroethane	ug/L	ND	1.0	07/15/14 14:51	
Chloroform	ug/L	ND	1.0	07/15/14 14:51	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	N2
Ethylbenzene	ug/L	ND	1.0	07/15/14 14:51	
Methylene chloride	ug/L	ND	1.0	07/15/14 14:51	
Tetrachloroethene	ug/L	ND	1.0	07/15/14 14:51	
Toluene	ug/L	ND	1.0	07/15/14 14:51	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Trichloroethene	ug/L	ND	1.0	07/15/14 14:51	
Vinyl chloride	ug/L	ND	1.0	07/15/14 14:51	
Xylene (Total)	ug/L	ND	3.0	07/15/14 14:51	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/15/14 14:51	
4-Bromofluorobenzene (S)	%	95	80-120	07/15/14 14:51	
Toluene-d8 (S)	%	101	80-120	07/15/14 14:51	

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	99	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.2	91	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.7	98	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.6	98	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.1	90	59-131	N2
Acetone	ug/L	100	80.5	81	38-134	N2
Benzene	ug/L	20	19.1	96	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

LABORATORY CONTROL SAMPLE: 1410583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	21.3	106	65-127	
Bromomethane	ug/L	20	11.4	57	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	18.3	91	64-129	
Tetrachloroethene	ug/L	20	19.7	98	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.8	99	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	14.9	75	43-129	
Xylene (Total)	ug/L	60	58.9	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			103	80-120	

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3890	97	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	4140	104	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3900	97	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4070	102	33-140	
2-Butanone (MEK)	ug/L	23300	20000	40200	84	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18400	91	40-160	N2
Acetone	ug/L	62100	20000	81600	98	10-160	N2
Benzene	ug/L	ND	4000	3830	96	37-151	
Bromodichloromethane	ug/L	ND	4000	4050	101	35-142	
Bromoform	ug/L	ND	4000	3850	96	45-142	
Bromomethane	ug/L	ND	4000	1230	31	10-158	
Carbon tetrachloride	ug/L	ND	4000	3940	99	70-140	
Chloroethane	ug/L	ND	4000	4460	111	19-152	
Chloroform	ug/L	ND	4000	3990	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3820	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	4230	106	40-142	
Methylene chloride	ug/L	ND	4000	3740	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4240	106	64-148	
Toluene	ug/L	ND	4000	4050	100	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3970	99	54-151	
Trichloroethene	ug/L	ND	4000	4030	101	71-149	
Vinyl chloride	ug/L	ND	4000	3420	85	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

MATRIX SPIKE SAMPLE: 1410584

Parameter	Units	60173405001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12700	105	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: OEXT/45116
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173566001

METHOD BLANK: 1410840
Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/17/14 08:46	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/17/14 08:46	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/17/14 08:46	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/17/14 08:46	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/17/14 08:46	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/17/14 08:46	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/17/14 08:46	
Hexachloroethane	ug/L	ND	5.0	07/17/14 08:46	
Naphthalene	ug/L	ND	5.0	07/17/14 08:46	
Nitrobenzene	ug/L	ND	5.0	07/17/14 08:46	
Pentachlorophenol	ug/L	ND	5.0	07/17/14 08:46	
Phenol	ug/L	ND	5.0	07/17/14 08:46	
2,4,6-Tribromophenol (S)	%	91	39-120	07/17/14 08:46	
2-Fluorobiphenyl (S)	%	89	39-120	07/17/14 08:46	
2-Fluorophenol (S)	%	53	17-120	07/17/14 08:46	
Nitrobenzene-d5 (S)	%	87	33-120	07/17/14 08:46	
Phenol-d6 (S)	%	34	11-120	07/17/14 08:46	
Terphenyl-d14 (S)	%	90	45-120	07/17/14 08:46	

LABORATORY CONTROL SAMPLE: 1410841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.0	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.3	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.0	72	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.9	66	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.4	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	34.5	69	44-116	
Hexachlorocyclopentadiene	ug/L	100	66.4	66	24-120	
Hexachloroethane	ug/L	50	34.9	70	43-113	
Naphthalene	ug/L	50	39.7	79	48-120	
Nitrobenzene	ug/L	50	40.1	80	48-120	
Pentachlorophenol	ug/L	50	46.4	93	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			85	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			77	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			83	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

MATRIX SPIKE SAMPLE: 1410842

Parameter	Units	60173565001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3700	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4540	91	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4310	86	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	6660	5000	10800	83	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4920J	98	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3460	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7410	74	11-120	
Hexachloroethane	ug/L	ND	5000	3790	76	40-113	
Naphthalene	ug/L	ND	5000	4280	86	45-120	
Nitrobenzene	ug/L	ND	5000	4010	80	38-120	
Pentachlorophenol	ug/L	ND	5000	5420	108	43-135	
Phenol	ug/L	9840	5000	13000	64	13-112	
2,4,6-Tribromophenol (S)	%				91	39-120	
2-Fluorobiphenyl (S)	%				85	39-120	
2-Fluorophenol (S)	%				50	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				36	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WET/49095
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173566001

METHOD BLANK: 1412039 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/17/14 16:16	

LABORATORY CONTROL SAMPLE: 1412040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.8	84	78-114	

MATRIX SPIKE SAMPLE: 1412041

Parameter	Units	60173178002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	5.1	47.1	42.6	80	78-114	

SAMPLE DUPLICATE: 1412042

Parameter	Units	60173178004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	745	856	14	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WET/49096
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173566001

METHOD BLANK: 1412053 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/17/14 16:21	

LABORATORY CONTROL SAMPLE: 1412054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.0	110	64-132	

MATRIX SPIKE SAMPLE: 1412055

Parameter	Units	60173178002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.5	17.1	65	64-132	

SAMPLE DUPLICATE: 1412056

Parameter	Units	60173178004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.7	7.7	12	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WET/49056 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173566001

METHOD BLANK: 1410968 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/16/14 09:27	

SAMPLE DUPLICATE: 1410969

Parameter	Units	60173600001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	11.0	0	10	

SAMPLE DUPLICATE: 1410970

Parameter	Units	60173493001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	106	94.0	12	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WET/49037
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173566001

SAMPLE DUPLICATE: 1410554

Parameter	Units	60173325001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.8	8.8	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WET/49012
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173566001

METHOD BLANK: 1410161 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/19/14 07:53	

LABORATORY CONTROL SAMPLE: 1410162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	188	95	85-115	

SAMPLE DUPLICATE: 1410163

Parameter	Units	60173560002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	498	449	10	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WETA/30263
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173566001

METHOD BLANK: 1410778 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/16/14 09:38	

LABORATORY CONTROL SAMPLE: 1410779

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

MATRIX SPIKE SAMPLE: 1410780

Parameter	Units	60173291002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.11	2	2.1	99	90-110	

MATRIX SPIKE SAMPLE: 1410781

Parameter	Units	60173295005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	86	90-110	M1

SAMPLE DUPLICATE: 1410782

Parameter	Units	60173295006 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

QC Batch: WETA/30266 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60173566001

METHOD BLANK: 1410868 Matrix: Water
Associated Lab Samples: 60173566001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/17/14 09:54	

LABORATORY CONTROL SAMPLE: 1410869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1410870

Parameter	Units	60173458013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14900	5000	19300	87	90-110	M1

MATRIX SPIKE SAMPLE: 1410872

Parameter	Units	60173566001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58300	25000	79400	84	90-110	M1

SAMPLE DUPLICATE: 1410871

Parameter	Units	60173458015 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1830	1780	3	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-357
Pace Project No.: 60173566

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.
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.
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 316-357
Pace Project No.: 60173566

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173566001	**316-357**	EPA 200.7	MPRP/28033	EPA 200.7	ICP/21203
60173566001	**316-357**	EPA 200.7	MPRP/28054	EPA 200.7	ICP/21202
60173566001	**316-357**	EPA 245.1	MERP/8595	EPA 245.1	MERC/8550
60173566001	**316-357**	EPA 245.1	MERP/8594	EPA 245.1	MERC/8549
60173566001	**316-357**	EPA 625	OEXT/45116	EPA 625	MSSV/14461
60173566001	**316-357**	EPA 624 Low	MSV/62991		
60173566002	**TRIP BLANK**	EPA 624 Low	MSV/62991		
60173566001	**316-357**	EPA 1664A	WET/49095		
60173566001	**316-357**	EPA 1664A	WET/49096		
60173566001	**316-357**	SM 2540D	WET/49056		
60173566001	**316-357**	SM 4500-H+B	WET/49037		
60173566001	**316-357**	SM 5210B	WET/49012	SM 5210B	WET/49145
60173566001	**316-357**	EPA 350.1	WETA/30263		
60173566001	**316-357**	EPA 410.4	WETA/30266		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60173566

60173566

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ K 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 ☑ 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: 2.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 7/1/14

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	BPSN initial pH 5.0 added 2.0 ml Final pH 4.0 DP3F initial pH 4.5 added 1ml Final pH 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 7/7/14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	1 of 5 DG9H has headspace
		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: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	
Missouri	

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

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

4.0 3.5

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316 - 357(2) BP2U BP3U BP3N BP3S	OT	G	7-12-14	7:30	7-12-14	7:45		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X		(3) AG3S (2) AG4U (5) DG4U
2	TRIP BLANK (2) DG4U								2	2																X				
3																														
4																														
5																														
6																														METALS LIST total & LF Dis:
7																														Al,Sb,As,Be,Cd,Cr,
8																														Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																														and Mercury
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FED	7-14-14	8:30	3M5	7-14-14	0850				
SITE ADDRESS: BRIDGETON LF				Pace	7/14	1310	2.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	Arron Lieber		
SIGNATURE of SAMPLER:	Arron Lieber	DATE Signed:	7-12-14

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

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

July 23, 2014

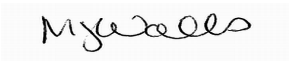
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173693001	**316-359**	Water	07/14/14 11:50	07/16/14 02:15
60173693002	**TRIP BLANK**	Water	07/14/14 11:50	07/16/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173693001	**316-359**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173693002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Sample: 316-359 **Lab ID: 60173693001** Collected: 07/14/14 11:50 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7620**	ug/L	750	2	07/16/14 16:10	07/18/14 16:09	7429-90-5	
Antimony	**68.2**	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:06	7440-36-0	
Arsenic	**1260**	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/16/14 16:10	07/18/14 16:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:06	7440-43-9	
Chromium	**261**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:06	7440-47-3	
Cobalt	**44.9**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:06	7440-48-4	
Copper	ND	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:06	7440-50-8	
Iron	**890000**	ug/L	250	1	07/16/14 16:10	07/18/14 16:06	7439-89-6	
Lead	**130**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:06	7439-92-1	
Nickel	**136**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/16/14 16:10	07/18/14 16:06	7782-49-2	
Silver	ND	ug/L	35.0	1	07/16/14 16:10	07/18/14 16:06	7440-22-4	
Thallium	ND	ug/L	200	2	07/16/14 16:10	07/18/14 16:09	7440-28-0	D3
Zinc	**7490**	ug/L	500	2	07/16/14 16:10	07/18/14 16:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3010**	ug/L	750	2	07/21/14 11:15	07/22/14 10:46	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/21/14 11:15	07/22/14 10:43	7440-36-0	
Arsenic, Dissolved	**1020**	ug/L	50.0	1	07/21/14 11:15	07/22/14 10:43	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/21/14 11:15	07/22/14 10:43	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/21/14 11:15	07/22/14 10:43	7440-43-9	
Chromium, Dissolved	**189**	ug/L	25.0	1	07/21/14 11:15	07/22/14 10:43	7440-47-3	
Cobalt, Dissolved	**27.5**	ug/L	25.0	1	07/21/14 11:15	07/22/14 10:43	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/21/14 11:15	07/22/14 10:43	7440-50-8	
Iron, Dissolved	**469000**	ug/L	250	1	07/21/14 11:15	07/22/14 10:43	7439-89-6	M1
Lead, Dissolved	**39.4**	ug/L	25.0	1	07/21/14 11:15	07/22/14 10:43	7439-92-1	
Nickel, Dissolved	**105**	ug/L	25.0	1	07/21/14 11:15	07/22/14 10:43	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/21/14 11:15	07/22/14 10:43	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/21/14 11:15	07/22/14 10:43	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/21/14 11:15	07/22/14 10:43	7440-28-0	
Zinc, Dissolved	**7070**	ug/L	500	2	07/21/14 11:15	07/22/14 10:46	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/17/14 15:40	07/18/14 08:57	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	07/17/14 15:40	07/18/14 09:06	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/18/14 00:00	07/22/14 10:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/18/14 00:00	07/22/14 10:01	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6420**	ug/L	4000	2	07/18/14 00:00	07/22/14 10:01		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Sample: 316-359 **Lab ID: 60173693001** Collected: 07/14/14 11:50 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	87-86-5	
Phenol	**9310**	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	104	%	33-120	2	07/18/14 00:00	07/22/14 10:01	4165-60-0	
2-Fluorobiphenyl (S)	72	%	39-120	2	07/18/14 00:00	07/22/14 10:01	321-60-8	
Terphenyl-d14 (S)	71	%	45-120	2	07/18/14 00:00	07/22/14 10:01	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	07/18/14 00:00	07/22/14 10:01	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	07/18/14 00:00	07/22/14 10:01	367-12-4	
2,4,6-Tribromophenol (S)	74	%	39-120	2	07/18/14 00:00	07/22/14 10:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**65800**	ug/L	2000	200		07/16/14 13:35	67-64-1	N2
Benzene	ND	ug/L	200	200		07/16/14 13:35	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/16/14 13:35	75-27-4	
Bromoform	ND	ug/L	200	200		07/16/14 13:35	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/16/14 13:35	74-83-9	
2-Butanone (MEK)	**23800**	ug/L	2000	200		07/16/14 13:35	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/16/14 13:35	56-23-5	
Chloroethane	ND	ug/L	200	200		07/16/14 13:35	75-00-3	
Chloroform	ND	ug/L	200	200		07/16/14 13:35	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/16/14 13:35	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/16/14 13:35	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/16/14 13:35	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/16/14 13:35	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/16/14 13:35	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/16/14 13:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/16/14 13:35	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/16/14 13:35	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/16/14 13:35	127-18-4	
Toluene	ND	ug/L	200	200		07/16/14 13:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/16/14 13:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/16/14 13:35	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/16/14 13:35	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/16/14 13:35	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/16/14 13:35	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	92	%	80-120	200		07/16/14 13:35	460-00-4	HS
Toluene-d8 (S)	102	%	80-120	200		07/16/14 13:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/16/14 13:35	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/16/14 13:35		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**501**	mg/L	5.0	1		07/21/14 08:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Sample: 316-359 **Lab ID: 60173693001** Collected: 07/14/14 11:50 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.8**	mg/L	5.0	1		07/21/14 08:40		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3320**	mg/L	5.0	1		07/17/14 11:39		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/16/14 12:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**32900**	mg/L	2.0	1	07/16/14 09:27	07/21/14 10:38		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**602**	mg/L	20.0	200		07/19/14 11:59	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52900**	mg/L	5000	500		07/18/14 09:50		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

Sample: TRIP BLANK **Lab ID: 60173693002** Collected: 07/14/14 11:50 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/16/14 13:04	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/16/14 13:04	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/16/14 13:04	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/16/14 13:04	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/16/14 13:04	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/16/14 13:04	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/16/14 13:04	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/16/14 13:04	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/16/14 13:04	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/16/14 13:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/14 13:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 13:04	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 13:04	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/14 13:04	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/16/14 13:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/16/14 13:04	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/16/14 13:04	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/16/14 13:04	127-18-4	
Toluene	ND	ug/L	1.0	1		07/16/14 13:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/16/14 13:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/16/14 13:04	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/16/14 13:04	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/16/14 13:04	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/16/14 13:04	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	1		07/16/14 13:04	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		07/16/14 13:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/16/14 13:04	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/16/14 13:04		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: MERP/8601
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173693001

METHOD BLANK: 1411980 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/18/14 08:46	

LABORATORY CONTROL SAMPLE: 1411981

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: 1411982 1411984

Parameter	Units	60173422002 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	5.2	5.1	105	101	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: MERP/8605
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173693001

METHOD BLANK: 1412084 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/18/14 09:02	

LABORATORY CONTROL SAMPLE: 1412085

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1412086 1412087

Parameter	Units	60173693001 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	130	112	87	75	70-130	15	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: MPRP/28079
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173693001

METHOD BLANK: 1411338
Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/18/14 16:00	
Antimony	ug/L	ND	10.0	07/18/14 16:00	
Arsenic	ug/L	ND	10.0	07/18/14 16:00	
Beryllium	ug/L	ND	1.0	07/18/14 16:00	
Cadmium	ug/L	ND	5.0	07/18/14 16:00	
Chromium	ug/L	ND	5.0	07/18/14 16:00	
Cobalt	ug/L	ND	5.0	07/18/14 16:00	
Copper	ug/L	ND	10.0	07/18/14 16:00	
Iron	ug/L	ND	50.0	07/18/14 16:00	
Lead	ug/L	ND	5.0	07/18/14 16:00	
Nickel	ug/L	ND	5.0	07/18/14 16:00	
Selenium	ug/L	ND	15.0	07/18/14 16:00	
Silver	ug/L	ND	7.0	07/18/14 16:00	
Thallium	ug/L	ND	20.0	07/18/14 16:00	
Zinc	ug/L	ND	50.0	07/18/14 16:00	

LABORATORY CONTROL SAMPLE: 1411339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9520	95	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	954	95	85-115	
Cadmium	ug/L	1000	990	99	85-115	
Chromium	ug/L	1000	944	94	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	981	98	85-115	
Iron	ug/L	10000	9640	96	85-115	
Lead	ug/L	1000	998	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	474	95	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	965	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1411340 1411341

Parameter	Units	60173705001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5600	50000	50000	59900	60700	109	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1040	5000	5000	6860	6760	116	115	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4680	4660	94	93	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5340	5320	107	106	70-130	1	10	
Chromium	ug/L	210	5000	5000	4880	4830	93	92	70-130	1	10	
Cobalt	ug/L	30.5	5000	5000	4940	4920	98	98	70-130	0	6	
Copper	ug/L	ND	5000	5000	5420	5380	108	107	70-130	1	11	
Iron	ug/L	676000	50000	50000	792000	750000	232	150	70-130	5	10	M1
Lead	ug/L	110	5000	5000	4630	4620	90	90	70-130	0	10	
Nickel	ug/L	110	5000	5000	4910	4880	96	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6120	124	122	70-130	2	10	
Silver	ug/L	ND	2500	2500	2630	2590	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4590	4690	92	94	70-130	2	6	
Zinc	ug/L	5980	5000	5000	11000	10900	100	99	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: MPRP/28127
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173693001

METHOD BLANK: 1413410
Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/22/14 10:41	
Antimony, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Arsenic, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Beryllium, Dissolved	ug/L	ND	1.0	07/22/14 10:41	
Cadmium, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Chromium, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Cobalt, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Copper, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Iron, Dissolved	ug/L	ND	50.0	07/22/14 10:41	
Lead, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Nickel, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Selenium, Dissolved	ug/L	ND	15.0	07/22/14 10:41	
Silver, Dissolved	ug/L	ND	7.0	07/22/14 10:41	
Thallium, Dissolved	ug/L	ND	20.0	07/22/14 10:41	
Zinc, Dissolved	ug/L	ND	50.0	07/22/14 10:41	

LABORATORY CONTROL SAMPLE: 1413411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9560	96	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	986	99	85-115	
Beryllium, Dissolved	ug/L	1000	941	94	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	961	96	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	974	97	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	959	96	85-115	
Silver, Dissolved	ug/L	500	484	97	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	990	99	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413412 1413413

Parameter	Units	60173693001 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	3010	50000	50000	53100	53300	100	101	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5480	5320	109	105	70-130	3	7	
Arsenic, Dissolved	ug/L	1020	5000	5000	6860	6820	117	116	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4550	4340	91	87	70-130	5	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5280	108	105	70-130	3	10	
Chromium, Dissolved	ug/L	189	5000	5000	5000	4790	96	92	70-130	4	10	
Cobalt, Dissolved	ug/L	27.5	5000	5000	5050	4890	100	97	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5120	105	102	70-130	3	11	
Iron, Dissolved	ug/L	469000	50000	50000	524000	566000	109	192	70-130	8	10	M1
Lead, Dissolved	ug/L	39.4	5000	5000	4570	4370	91	87	70-130	5	10	
Nickel, Dissolved	ug/L	105	5000	5000	4950	4740	97	93	70-130	4	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	5870	120	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2590	106	104	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4130	86	83	70-130	3	6	
Zinc, Dissolved	ug/L	7070	5000	5000	12000	12800	99	114	70-130	6	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: MSV/63006
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60173693001, 60173693002

METHOD BLANK: 1411040
Matrix: Water
Associated Lab Samples: 60173693001, 60173693002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/16/14 12:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,2-Dichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/16/14 12:17	
2-Butanone (MEK)	ug/L	ND	10.0	07/16/14 12:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/16/14 12:17	N2
Acetone	ug/L	ND	10.0	07/16/14 12:17	N2
Benzene	ug/L	ND	1.0	07/16/14 12:17	
Bromodichloromethane	ug/L	ND	1.0	07/16/14 12:17	
Bromoform	ug/L	ND	1.0	07/16/14 12:17	
Bromomethane	ug/L	ND	5.0	07/16/14 12:17	
Carbon tetrachloride	ug/L	ND	1.0	07/16/14 12:17	
Chloroethane	ug/L	ND	1.0	07/16/14 12:17	
Chloroform	ug/L	ND	1.0	07/16/14 12:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	N2
Ethylbenzene	ug/L	ND	1.0	07/16/14 12:17	
Methylene chloride	ug/L	ND	1.0	07/16/14 12:17	
Tetrachloroethene	ug/L	ND	1.0	07/16/14 12:17	
Toluene	ug/L	ND	1.0	07/16/14 12:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Trichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Vinyl chloride	ug/L	ND	1.0	07/16/14 12:17	
Xylene (Total)	ug/L	ND	3.0	07/16/14 12:17	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	07/16/14 12:17	
4-Bromofluorobenzene (S)	%	95	80-120	07/16/14 12:17	
Toluene-d8 (S)	%	102	80-120	07/16/14 12:17	

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	105	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.7	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.8	104	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.3	95	59-131	N2
Acetone	ug/L	100	80.0	80	38-134	N2
Benzene	ug/L	20	19.6	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.0	105	68-125	
Bromoform	ug/L	20	21.6	108	65-127	
Bromomethane	ug/L	20	12.4	62	13-157	
Carbon tetrachloride	ug/L	20	20.6	103	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	20.5	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.8	104	74-122	
Methylene chloride	ug/L	20	19.4	97	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	20.1	100	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	66-129	
Trichloroethene	ug/L	20	19.9	100	71-123	
Vinyl chloride	ug/L	20	15.2	76	43-129	
Xylene (Total)	ug/L	60	60.1	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4180	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3470	87	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3680	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3650	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	23800	20000	38300	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16800	83	40-160	N2
Acetone	ug/L	65800	20000	78900	65	10-160	N2
Benzene	ug/L	ND	4000	3650	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-142	
Bromoform	ug/L	ND	4000	3790	95	45-142	
Bromomethane	ug/L	ND	4000	2200	55	10-158	
Carbon tetrachloride	ug/L	ND	4000	4360	109	70-140	
Chloroethane	ug/L	ND	4000	3760	94	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	4030	101	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4140	104	64-148	
Toluene	ug/L	ND	4000	3770	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3880	97	54-151	
Trichloroethene	ug/L	ND	4000	3820	95	71-149	
Vinyl chloride	ug/L	ND	4000	3170	79	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11800	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	HS
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: OEXT/45153
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173693001

METHOD BLANK: 1412205
Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/22/14 09:20	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/22/14 09:20	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/22/14 09:20	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/22/14 09:20	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachloroethane	ug/L	ND	5.0	07/22/14 09:20	
Naphthalene	ug/L	ND	5.0	07/22/14 09:20	
Nitrobenzene	ug/L	ND	5.0	07/22/14 09:20	
Pentachlorophenol	ug/L	ND	5.0	07/22/14 09:20	
Phenol	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Tribromophenol (S)	%	81	39-120	07/22/14 09:20	
2-Fluorobiphenyl (S)	%	81	39-120	07/22/14 09:20	
2-Fluorophenol (S)	%	46	17-120	07/22/14 09:20	
Nitrobenzene-d5 (S)	%	79	33-120	07/22/14 09:20	
Phenol-d6 (S)	%	30	11-120	07/22/14 09:20	
Terphenyl-d14 (S)	%	78	45-120	07/22/14 09:20	

LABORATORY CONTROL SAMPLE: 1412206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.5	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.2	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	56.3	113	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.6	63	24-120	
Hexachloroethane	ug/L	50	40.0	80	43-113	
Naphthalene	ug/L	50	43.6	87	48-120	
Nitrobenzene	ug/L	50	44.2	88	48-120	
Pentachlorophenol	ug/L	50	47.4	95	47-120	
Phenol	ug/L	50	19.3	39	16-112	
2,4,6-Tribromophenol (S)	%			93	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

MATRIX SPIKE SAMPLE: 1412207

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4110	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3590	72	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	5820	5000	8790	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4450J	89	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5090	51	11-120	
Hexachloroethane	ug/L	ND	5000	3470	69	40-113	
Naphthalene	ug/L	ND	5000	4000	74	45-120	
Nitrobenzene	ug/L	ND	5000	3830	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4460	89	43-135	
Phenol	ug/L	8330	5000	9800	29	13-112	
2,4,6-Tribromophenol (S)	%				79	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				28	11-120	
Terphenyl-d14 (S)	%				74	45-120	

MATRIX SPIKE SAMPLE: 1412208

Parameter	Units	60173799009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	52.6	11.7	22	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	52.6	18.2	35	50-120	M1
2-Methylphenol(o-Cresol)	ug/L	ND	52.6	12.8	24	30-120	M1,N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	52.6	12.5J	24	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	52.6	13.8J	26	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	52.6	9.8	19	39-116	M1
Hexachlorocyclopentadiene	ug/L	ND	105	6.3	6	11-120	M1
Hexachloroethane	ug/L	ND	52.6	10.6	20	40-113	M1
Naphthalene	ug/L	ND	52.6	13.1	25	45-120	M1
Nitrobenzene	ug/L	ND	52.6	14.1	27	38-120	M1
Pentachlorophenol	ug/L	ND	52.6	11.2	21	43-135	M1
Phenol	ug/L	ND	52.6	6.5	12	13-112	M1
2,4,6-Tribromophenol (S)	%				35	39-120	S2
2-Fluorobiphenyl (S)	%				28	39-120	S2
2-Fluorophenol (S)	%				15	17-120	S2
Nitrobenzene-d5 (S)	%				23	33-120	S2
Phenol-d6 (S)	%				11	11-120	
Terphenyl-d14 (S)	%				32	45-120	S2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WET/49128 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173693001

METHOD BLANK: 1413329 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/21/14 08:17	

LABORATORY CONTROL SAMPLE: 1413330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.2	86	78-114	

MATRIX SPIKE SAMPLE: 1413331

Parameter	Units	60173433001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	38.4	79	78-114	

SAMPLE DUPLICATE: 1413332

Parameter	Units	60173433002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	5.8	2.3J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WET/49129 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173693001

METHOD BLANK: 1413333 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/21/14 08:36	

LABORATORY CONTROL SAMPLE: 1413334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1413335

Parameter	Units	60173433001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	13.0	49	64-132	M1

SAMPLE DUPLICATE: 1413336

Parameter	Units	60173433002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WET/49087
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173693001

METHOD BLANK: 1411650 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/17/14 11:37	

SAMPLE DUPLICATE: 1411651

Parameter	Units	60173674001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	17.0	19.0	11	10	D6

SAMPLE DUPLICATE: 1411652

Parameter	Units	60173668001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	25.0	25.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WET/49064
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173693001

SAMPLE DUPLICATE: 1411287

Parameter	Units	60173674001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WET/49050 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173693001

METHOD BLANK: 1410863 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/21/14 09:32	

LABORATORY CONTROL SAMPLE: 1410864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	199	100	85-115	

SAMPLE DUPLICATE: 1410865

Parameter	Units	60173585002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	62.8	73.4	16	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WETA/30316 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173693001

METHOD BLANK: 1412883 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/19/14 11:35	

LABORATORY CONTROL SAMPLE: 1412884

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

MATRIX SPIKE SAMPLE: 1412885

Parameter	Units	60173635001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1412886

Parameter	Units	60173676002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	104	90-110	

SAMPLE DUPLICATE: 1412887

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	577	589	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

QC Batch: WETA/30279
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173693001

METHOD BLANK: 1411447 Matrix: Water
Associated Lab Samples: 60173693001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/18/14 09:43	

LABORATORY CONTROL SAMPLE: 1411448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.4	101	90-110	

MATRIX SPIKE SAMPLE: 1411449

Parameter	Units	60173422002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	182	250	396	86	90-110	M1

MATRIX SPIKE SAMPLE: 1411451

Parameter	Units	60173302002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	28.3	50	74.6	93	90-110	

SAMPLE DUPLICATE: 1411450

Parameter	Units	60173392002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54.4	50.3	8	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-359
Pace Project No.: 60173693

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
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.
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 316-359
Pace Project No.: 60173693

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173693001	**316-359**	EPA 200.7	MPRP/28079	EPA 200.7	ICP/21218
60173693001	**316-359**	EPA 200.7	MPRP/28127	EPA 200.7	ICP/21254
60173693001	**316-359**	EPA 245.1	MERP/8601	EPA 245.1	MERC/8556
60173693001	**316-359**	EPA 245.1	MERP/8605	EPA 245.1	MERC/8557
60173693001	**316-359**	EPA 625	OEXT/45153	EPA 625	MSSV/14478
60173693001	**316-359**	EPA 624 Low	MSV/63006		
60173693002	**TRIP BLANK**	EPA 624 Low	MSV/63006		
60173693001	**316-359**	EPA 1664A	WET/49128		
60173693001	**316-359**	EPA 1664A	WET/49129		
60173693001	**316-359**	SM 2540D	WET/49087		
60173693001	**316-359**	SM 4500-H+B	WET/49064		
60173693001	**316-359**	SM 5210B	WET/49050	SM 5210B	WET/49187
60173693001	**316-359**	EPA 350.1	WETA/30316		
60173693001	**316-359**	EPA 410.4	WETA/30279		

WO# : 60173693

60173693

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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 ☒ 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: 3.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AV 7/16/14

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 HNO_3 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 H_2SO_4 to BP3S. pH 4.5/2.0 14.
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes	☐No		Initial when completed: AV; Lot # of added preservative: 12513, 12524
Trip Blank present: Pace Trip Blank lot # (if purchased): cover	☒Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☒Yes	☐No	☐N/A	5 of 5 DG9U has headspace 16. — HS / APPLY QUALIFIER, BASED ON
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State: UNADVICM INSTRUCTIONS

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

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: AB Date: 7/16/14

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.

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

Page : 1 Of 1

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

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)	60173693
1	2BPZU 316-359 2AG9U 1BP3U 3AG3S	OT	G	7/14/14	1150	—	—		~~14~~ 15	10	4	1	0	1BP3S 2-6					X	X	X	X	X	X	X	X	X	X	X	1BP3N	4.0	5DG9U
2	TRIP BLANK	—	—	—		—	—		2	2																X						2DG9U
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	7-15-14	2:00	Kenneth Harch	7/15/14	2:00				
SITE ADDRESS: BRIDGETON LF				[signature] PACE	7/16/14	0215	3.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/14/14

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

July 23, 2014

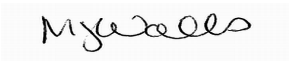
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173705001	**316-360**	Water	07/15/14 08:40	07/16/14 02:15
60173705002	**TRIP BLANK**	Water	07/15/14 08:40	07/16/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173705001	**316-360**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173705002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Date: July 23, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Sample: 316-360 **Lab ID: 60173705001** Collected: 07/15/14 08:40 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5600**	ug/L	750	2	07/16/14 16:10	07/18/14 16:14	7429-90-5	
Antimony	ND	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:11	7440-36-0	
Arsenic	**1040**	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:11	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/16/14 16:10	07/18/14 16:11	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:11	7440-43-9	
Chromium	**210**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:11	7440-47-3	
Cobalt	**30.5**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:11	7440-48-4	
Copper	ND	ug/L	50.0	1	07/16/14 16:10	07/18/14 16:11	7440-50-8	
Iron	**676000**	ug/L	250	1	07/16/14 16:10	07/18/14 16:11	7439-89-6	M1
Lead	**110**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:11	7439-92-1	
Nickel	**110**	ug/L	25.0	1	07/16/14 16:10	07/18/14 16:11	7440-02-0	
Selenium	ND	ug/L	75.0	1	07/16/14 16:10	07/18/14 16:11	7782-49-2	
Silver	ND	ug/L	35.0	1	07/16/14 16:10	07/18/14 16:11	7440-22-4	
Thallium	ND	ug/L	200	2	07/16/14 16:10	07/18/14 16:14	7440-28-0	D3
Zinc	**5980**	ug/L	500	2	07/16/14 16:10	07/18/14 16:14	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**6840**	ug/L	750	2	07/21/14 11:15	07/22/14 11:22	7429-90-5	D9
Antimony, Dissolved	ND	ug/L	100	2	07/21/14 11:15	07/22/14 11:22	7440-36-0	D3
Arsenic, Dissolved	**1180**	ug/L	100	2	07/21/14 11:15	07/22/14 11:22	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	1	07/21/14 11:15	07/22/14 11:19	7440-41-7	
Cadmium, Dissolved	ND	ug/L	50.0	2	07/21/14 11:15	07/22/14 11:22	7440-43-9	D3
Chromium, Dissolved	**232**	ug/L	25.0	1	07/21/14 11:15	07/22/14 11:19	7440-47-3	D9
Cobalt, Dissolved	ND	ug/L	50.0	2	07/21/14 11:15	07/22/14 11:22	7440-48-4	D3
Copper, Dissolved	ND	ug/L	50.0	1	07/21/14 11:15	07/22/14 11:19	7440-50-8	
Iron, Dissolved	**838000**	ug/L	250	1	07/21/14 11:15	07/22/14 11:19	7439-89-6	
Lead, Dissolved	**112**	ug/L	50.0	2	07/21/14 11:15	07/22/14 11:22	7439-92-1	D9
Nickel, Dissolved	**137**	ug/L	50.0	2	07/21/14 11:15	07/22/14 11:22	7440-02-0	D9
Selenium, Dissolved	ND	ug/L	150	2	07/21/14 11:15	07/22/14 11:22	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/21/14 11:15	07/22/14 11:19	7440-22-4	
Thallium, Dissolved	ND	ug/L	200	2	07/21/14 11:15	07/22/14 11:22	7440-28-0	D3
Zinc, Dissolved	**7150**	ug/L	500	2	07/21/14 11:15	07/22/14 11:22	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**9.5**	ug/L	6.0	1	07/17/14 15:40	07/18/14 08:59	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	07/17/14 15:40	07/18/14 09:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/18/14 00:00	07/22/14 13:08	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/18/14 00:00	07/22/14 13:08	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6520**	ug/L	4000	2	07/18/14 00:00	07/22/14 13:08		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Sample: 316-360 **Lab ID: 60173705001** Collected: 07/15/14 08:40 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	87-86-5	
Phenol	**9840**	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 13:08	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	104	%	33-120	2	07/18/14 00:00	07/22/14 13:08	4165-60-0	
2-Fluorobiphenyl (S)	76	%	39-120	2	07/18/14 00:00	07/22/14 13:08	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	07/18/14 00:00	07/22/14 13:08	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	07/18/14 00:00	07/22/14 13:08	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	07/18/14 00:00	07/22/14 13:08	367-12-4	
2,4,6-Tribromophenol (S)	79	%	39-120	2	07/18/14 00:00	07/22/14 13:08	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**62100**	ug/L	2000	200		07/16/14 14:06	67-64-1	N2
Benzene	ND	ug/L	200	200		07/16/14 14:06	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/16/14 14:06	75-27-4	
Bromoform	ND	ug/L	200	200		07/16/14 14:06	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/16/14 14:06	74-83-9	
2-Butanone (MEK)	**22800**	ug/L	2000	200		07/16/14 14:06	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/16/14 14:06	56-23-5	
Chloroethane	ND	ug/L	200	200		07/16/14 14:06	75-00-3	
Chloroform	ND	ug/L	200	200		07/16/14 14:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/16/14 14:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/16/14 14:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/16/14 14:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/16/14 14:06	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/16/14 14:06	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/16/14 14:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/16/14 14:06	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/16/14 14:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/16/14 14:06	127-18-4	
Toluene	ND	ug/L	200	200		07/16/14 14:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/16/14 14:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/16/14 14:06	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/16/14 14:06	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/16/14 14:06	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/16/14 14:06	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		07/16/14 14:06	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		07/16/14 14:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/16/14 14:06	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/16/14 14:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**759**	mg/L	5.0	1		07/21/14 08:28		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Sample: 316-360 **Lab ID: 60173705001** Collected: 07/15/14 08:40 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.4**	mg/L	5.0	1		07/21/14 08:40		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**7320**	mg/L	5.0	1		07/17/14 11:41		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/16/14 12:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29200**	mg/L	2.0	1	07/16/14 16:30	07/21/14 12:12		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**573**	mg/L	20.0	200		07/19/14 12:00	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49900**	mg/L	5000	500		07/18/14 09:50		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Sample: TRIP BLANK **Lab ID: 60173705002** Collected: 07/15/14 08:40 Received: 07/16/14 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/16/14 13:19	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/16/14 13:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/16/14 13:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/16/14 13:19	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/16/14 13:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/16/14 13:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/16/14 13:19	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/16/14 13:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/16/14 13:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/16/14 13:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/16/14 13:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 13:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/16/14 13:19	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/16/14 13:19	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/16/14 13:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/16/14 13:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/16/14 13:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/16/14 13:19	127-18-4	
Toluene	ND	ug/L	1.0	1		07/16/14 13:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/16/14 13:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/16/14 13:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/16/14 13:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/16/14 13:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/16/14 13:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	1		07/16/14 13:19	460-00-4	
Toluene-d8 (S)	103	%	80-120	1		07/16/14 13:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/16/14 13:19	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/16/14 13:19		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: MERP/8601
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173705001

METHOD BLANK: 1411980 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/18/14 08:46	

LABORATORY CONTROL SAMPLE: 1411981

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: 1411982 1411984

Parameter	Units	60173422002 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	5.2	5.1	105	101	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: MERP/8605
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173705001

METHOD BLANK: 1412084 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/18/14 09:02	

LABORATORY CONTROL SAMPLE: 1412085

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1412086 1412087

Parameter	Units	60173693001 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	130	112	87	75	70-130	15	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: MPRP/28079
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173705001

METHOD BLANK: 1411338
Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/18/14 16:00	
Antimony	ug/L	ND	10.0	07/18/14 16:00	
Arsenic	ug/L	ND	10.0	07/18/14 16:00	
Beryllium	ug/L	ND	1.0	07/18/14 16:00	
Cadmium	ug/L	ND	5.0	07/18/14 16:00	
Chromium	ug/L	ND	5.0	07/18/14 16:00	
Cobalt	ug/L	ND	5.0	07/18/14 16:00	
Copper	ug/L	ND	10.0	07/18/14 16:00	
Iron	ug/L	ND	50.0	07/18/14 16:00	
Lead	ug/L	ND	5.0	07/18/14 16:00	
Nickel	ug/L	ND	5.0	07/18/14 16:00	
Selenium	ug/L	ND	15.0	07/18/14 16:00	
Silver	ug/L	ND	7.0	07/18/14 16:00	
Thallium	ug/L	ND	20.0	07/18/14 16:00	
Zinc	ug/L	ND	50.0	07/18/14 16:00	

LABORATORY CONTROL SAMPLE: 1411339

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9520	95	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	954	95	85-115	
Cadmium	ug/L	1000	990	99	85-115	
Chromium	ug/L	1000	944	94	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	981	98	85-115	
Iron	ug/L	10000	9640	96	85-115	
Lead	ug/L	1000	998	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	474	95	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	965	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1411340 1411341

Parameter	Units	60173705001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5600	50000	50000	59900	60700	109	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5480	5450	109	108	70-130	1	7	
Arsenic	ug/L	1040	5000	5000	6860	6760	116	115	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4680	4660	94	93	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5340	5320	107	106	70-130	1	10	
Chromium	ug/L	210	5000	5000	4880	4830	93	92	70-130	1	10	
Cobalt	ug/L	30.5	5000	5000	4940	4920	98	98	70-130	0	6	
Copper	ug/L	ND	5000	5000	5420	5380	108	107	70-130	1	11	
Iron	ug/L	676000	50000	50000	792000	750000	232	150	70-130	5	10	M1
Lead	ug/L	110	5000	5000	4630	4620	90	90	70-130	0	10	
Nickel	ug/L	110	5000	5000	4910	4880	96	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	6220	6120	124	122	70-130	2	10	
Silver	ug/L	ND	2500	2500	2630	2590	105	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4590	4690	92	94	70-130	2	6	
Zinc	ug/L	5980	5000	5000	11000	10900	100	99	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: MPRP/28127
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173705001

METHOD BLANK: 1413410 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/22/14 10:41	
Antimony, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Arsenic, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Beryllium, Dissolved	ug/L	ND	1.0	07/22/14 10:41	
Cadmium, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Chromium, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Cobalt, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Copper, Dissolved	ug/L	ND	10.0	07/22/14 10:41	
Iron, Dissolved	ug/L	ND	50.0	07/22/14 10:41	
Lead, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Nickel, Dissolved	ug/L	ND	5.0	07/22/14 10:41	
Selenium, Dissolved	ug/L	ND	15.0	07/22/14 10:41	
Silver, Dissolved	ug/L	ND	7.0	07/22/14 10:41	
Thallium, Dissolved	ug/L	ND	20.0	07/22/14 10:41	
Zinc, Dissolved	ug/L	ND	50.0	07/22/14 10:41	

LABORATORY CONTROL SAMPLE: 1413411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9560	96	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	986	99	85-115	
Beryllium, Dissolved	ug/L	1000	941	94	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	961	96	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	974	97	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	959	96	85-115	
Silver, Dissolved	ug/L	500	484	97	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	990	99	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413412 1413413

Parameter	Units	60173693001 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	3010	50000	50000	53100	53300	100	101	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5480	5320	109	105	70-130	3	7	
Arsenic, Dissolved	ug/L	1020	5000	5000	6860	6820	117	116	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4550	4340	91	87	70-130	5	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5420	5280	108	105	70-130	3	10	
Chromium, Dissolved	ug/L	189	5000	5000	5000	4790	96	92	70-130	4	10	
Cobalt, Dissolved	ug/L	27.5	5000	5000	5050	4890	100	97	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5120	105	102	70-130	3	11	
Iron, Dissolved	ug/L	469000	50000	50000	524000	566000	109	192	70-130	8	10	M1
Lead, Dissolved	ug/L	39.4	5000	5000	4570	4370	91	87	70-130	5	10	
Nickel, Dissolved	ug/L	105	5000	5000	4950	4740	97	93	70-130	4	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	5870	120	117	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2590	106	104	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4280	4130	86	83	70-130	3	6	
Zinc, Dissolved	ug/L	7070	5000	5000	12000	12800	99	114	70-130	6	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: MSV/63006 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173705001, 60173705002

METHOD BLANK: 1411040 Matrix: Water
Associated Lab Samples: 60173705001, 60173705002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/16/14 12:17	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,2-Dichloroethane	ug/L	ND	1.0	07/16/14 12:17	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/16/14 12:17	
2-Butanone (MEK)	ug/L	ND	10.0	07/16/14 12:17	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/16/14 12:17	N2
Acetone	ug/L	ND	10.0	07/16/14 12:17	N2
Benzene	ug/L	ND	1.0	07/16/14 12:17	
Bromodichloromethane	ug/L	ND	1.0	07/16/14 12:17	
Bromoform	ug/L	ND	1.0	07/16/14 12:17	
Bromomethane	ug/L	ND	5.0	07/16/14 12:17	
Carbon tetrachloride	ug/L	ND	1.0	07/16/14 12:17	
Chloroethane	ug/L	ND	1.0	07/16/14 12:17	
Chloroform	ug/L	ND	1.0	07/16/14 12:17	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	N2
Ethylbenzene	ug/L	ND	1.0	07/16/14 12:17	
Methylene chloride	ug/L	ND	1.0	07/16/14 12:17	
Tetrachloroethene	ug/L	ND	1.0	07/16/14 12:17	
Toluene	ug/L	ND	1.0	07/16/14 12:17	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Trichloroethene	ug/L	ND	1.0	07/16/14 12:17	
Vinyl chloride	ug/L	ND	1.0	07/16/14 12:17	
Xylene (Total)	ug/L	ND	3.0	07/16/14 12:17	N2
1,2-Dichloroethane-d4 (S)	%	103	80-120	07/16/14 12:17	
4-Bromofluorobenzene (S)	%	95	80-120	07/16/14 12:17	
Toluene-d8 (S)	%	102	80-120	07/16/14 12:17	

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.9	105	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.7	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.8	104	74-120	
2-Butanone (MEK)	ug/L	100	82.0	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.3	95	59-131	N2
Acetone	ug/L	100	80.0	80	38-134	N2
Benzene	ug/L	20	19.6	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

LABORATORY CONTROL SAMPLE: 1411041

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.0	105	68-125	
Bromoform	ug/L	20	21.6	108	65-127	
Bromomethane	ug/L	20	12.4	62	13-157	
Carbon tetrachloride	ug/L	20	20.6	103	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	20.5	102	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.8	104	74-122	
Methylene chloride	ug/L	20	19.4	97	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	20.1	100	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	66-129	
Trichloroethene	ug/L	20	19.9	100	71-123	
Vinyl chloride	ug/L	20	15.2	76	43-129	
Xylene (Total)	ug/L	60	60.1	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4180	104	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3470	87	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3680	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3650	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	23800	20000	38300	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16800	83	40-160	N2
Acetone	ug/L	65800	20000	78900	65	10-160	N2
Benzene	ug/L	ND	4000	3650	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-142	
Bromoform	ug/L	ND	4000	3790	95	45-142	
Bromomethane	ug/L	ND	4000	2200	55	10-158	
Carbon tetrachloride	ug/L	ND	4000	4360	109	70-140	
Chloroethane	ug/L	ND	4000	3760	94	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	4030	101	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4140	104	64-148	
Toluene	ug/L	ND	4000	3770	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3880	97	54-151	
Trichloroethene	ug/L	ND	4000	3820	95	71-149	
Vinyl chloride	ug/L	ND	4000	3170	79	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

MATRIX SPIKE SAMPLE: 1411042

Parameter	Units	60173693001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11800	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				93	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	HS
Toluene-d8 (S)	%				102	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: OEXT/45153
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173705001

METHOD BLANK: 1412205
Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/22/14 09:20	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/22/14 09:20	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/22/14 09:20	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/22/14 09:20	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachloroethane	ug/L	ND	5.0	07/22/14 09:20	
Naphthalene	ug/L	ND	5.0	07/22/14 09:20	
Nitrobenzene	ug/L	ND	5.0	07/22/14 09:20	
Pentachlorophenol	ug/L	ND	5.0	07/22/14 09:20	
Phenol	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Tribromophenol (S)	%	81	39-120	07/22/14 09:20	
2-Fluorobiphenyl (S)	%	81	39-120	07/22/14 09:20	
2-Fluorophenol (S)	%	46	17-120	07/22/14 09:20	
Nitrobenzene-d5 (S)	%	79	33-120	07/22/14 09:20	
Phenol-d6 (S)	%	30	11-120	07/22/14 09:20	
Terphenyl-d14 (S)	%	78	45-120	07/22/14 09:20	

LABORATORY CONTROL SAMPLE: 1412206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.5	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.2	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	56.3	113	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.6	63	24-120	
Hexachloroethane	ug/L	50	40.0	80	43-113	
Naphthalene	ug/L	50	43.6	87	48-120	
Nitrobenzene	ug/L	50	44.2	88	48-120	
Pentachlorophenol	ug/L	50	47.4	95	47-120	
Phenol	ug/L	50	19.3	39	16-112	
2,4,6-Tribromophenol (S)	%			93	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

MATRIX SPIKE SAMPLE: 1412207

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4110	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3590	72	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	5820	5000	8790	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4450J	89	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5090	51	11-120	
Hexachloroethane	ug/L	ND	5000	3470	69	40-113	
Naphthalene	ug/L	ND	5000	4000	74	45-120	
Nitrobenzene	ug/L	ND	5000	3830	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4460	89	43-135	
Phenol	ug/L	8330	5000	9800	29	13-112	
2,4,6-Tribromophenol (S)	%				79	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				28	11-120	
Terphenyl-d14 (S)	%				74	45-120	

MATRIX SPIKE SAMPLE: 1412208

Parameter	Units	60173799009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	52.6	11.7	22	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	52.6	18.2	35	50-120	M1
2-Methylphenol(o-Cresol)	ug/L	ND	52.6	12.8	24	30-120	M1,N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	52.6	12.5J	24	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	52.6	13.8J	26	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	52.6	9.8	19	39-116	M1
Hexachlorocyclopentadiene	ug/L	ND	105	6.3	6	11-120	M1
Hexachloroethane	ug/L	ND	52.6	10.6	20	40-113	M1
Naphthalene	ug/L	ND	52.6	13.1	25	45-120	M1
Nitrobenzene	ug/L	ND	52.6	14.1	27	38-120	M1
Pentachlorophenol	ug/L	ND	52.6	11.2	21	43-135	M1
Phenol	ug/L	ND	52.6	6.5	12	13-112	M1
2,4,6-Tribromophenol (S)	%				35	39-120	S2
2-Fluorobiphenyl (S)	%				28	39-120	S2
2-Fluorophenol (S)	%				15	17-120	S2
Nitrobenzene-d5 (S)	%				23	33-120	S2
Phenol-d6 (S)	%				11	11-120	
Terphenyl-d14 (S)	%				32	45-120	S2

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WET/49128 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173705001

METHOD BLANK: 1413329 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/21/14 08:17	

LABORATORY CONTROL SAMPLE: 1413330

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.2	86	78-114	

MATRIX SPIKE SAMPLE: 1413331

Parameter	Units	60173433001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	38.4	79	78-114	

SAMPLE DUPLICATE: 1413332

Parameter	Units	60173433002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	5.8	2.3J		18	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WET/49129 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173705001

METHOD BLANK: 1413333 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/21/14 08:36	

LABORATORY CONTROL SAMPLE: 1413334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.4	112	64-132	

MATRIX SPIKE SAMPLE: 1413335

Parameter	Units	60173433001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	23.3	13.0	49	64-132	M1

SAMPLE DUPLICATE: 1413336

Parameter	Units	60173433002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.3J		34	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WET/49087
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173705001

METHOD BLANK: 1411650
Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/17/14 11:37	

SAMPLE DUPLICATE: 1411651

Parameter	Units	60173674001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	17.0	19.0	11	10	D6

SAMPLE DUPLICATE: 1411652

Parameter	Units	60173668001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	25.0	25.0	0	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WET/49064
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173705001

SAMPLE DUPLICATE: 1411287

Parameter	Units	60173674001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.5	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WET/49071 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173705001

METHOD BLANK: 1411413 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/21/14 11:51	

LABORATORY CONTROL SAMPLE: 1411414

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	201	101	85-115	

SAMPLE DUPLICATE: 1411415

Parameter	Units	60173747001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1100	1070	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WETA/30316 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173705001

METHOD BLANK: 1412883 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/19/14 11:35	

LABORATORY CONTROL SAMPLE: 1412884

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

MATRIX SPIKE SAMPLE: 1412885

Parameter	Units	60173635001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1412886

Parameter	Units	60173676002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	104	90-110	

SAMPLE DUPLICATE: 1412887

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	577	589	2	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

QC Batch: WETA/30279
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173705001

METHOD BLANK: 1411447 Matrix: Water
Associated Lab Samples: 60173705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/18/14 09:43	

LABORATORY CONTROL SAMPLE: 1411448

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.4	101	90-110	

MATRIX SPIKE SAMPLE: 1411449

Parameter	Units	60173422002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	182	250	396	86	90-110	M1

MATRIX SPIKE SAMPLE: 1411451

Parameter	Units	60173302002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	28.3	50	74.6	93	90-110	

SAMPLE DUPLICATE: 1411450

Parameter	Units	60173392002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54.4	50.3	8	25	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S2	Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-360
Pace Project No.: 60173705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173705001	**316-360**	EPA 200.7	MPRP/28079	EPA 200.7	ICP/21218
60173705001	**316-360**	EPA 200.7	MPRP/28127	EPA 200.7	ICP/21254
60173705001	**316-360**	EPA 245.1	MERP/8601	EPA 245.1	MERC/8556
60173705001	**316-360**	EPA 245.1	MERP/8605	EPA 245.1	MERC/8557
60173705001	**316-360**	EPA 625	OEXT/45153	EPA 625	MSSV/14478
60173705001	**316-360**	EPA 624 Low	MSV/63006		
60173705002	**TRIP BLANK**	EPA 624 Low	MSV/63006		
60173705001	**316-360**	EPA 1664A	WET/49128		
60173705001	**316-360**	EPA 1664A	WET/49129		
60173705001	**316-360**	SM 2540D	WET/49087		
60173705001	**316-360**	SM 4500-H+B	WET/49064		
60173705001	**316-360**	SM 5210B	WET/49071	SM 5210B	WET/49150
60173705001	**316-360**	EPA 350.1	WETA/30316		
60173705001	**316-360**	EPA 410.4	WETA/30279		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60173705

60173705

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 9.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: att 7/16

Chain of Custody present:	☑Yes ☐No ☐N/A	1. ice melted
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	BP3N initial pH 5.0 added 0.5mL HNO3 final pH 4.0 BP3S initial pH 4.5 added 2mL H2SO4 final pH 2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: att / Lot # of added preservative: 19524-25, 12613-2-3-2
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/16/16

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	State / Location
	Missouri

60173705

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	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	2(BP2U) 1(BP3U) 316-360 2(AG4U) 5(DG9U)	OT	G	7/15/14	0840	—	—		15 (12)	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5.0/40 46/25 1(BP3N) 1(BP3S) 3(AG3S) 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			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[illegible] FEI	7-15-14	2:00	[illegible]	7/15/14	2:00				
SITE ADDRESS: BRIDGETON LF				[illegible] / PASI	7/16	02:15	9.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [illegible] DATE Signed: 7/15/14

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

July 24, 2014

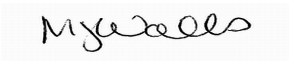
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LANDFILL 316-361
Pace Project No.: 60173798

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173798001	**316-361**	Water	07/16/14 10:30	07/17/14 01:35
60173798002	**TRIP BLANK**	Water	07/16/14 10:30	07/17/14 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173798001	**316-361**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173798002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Sample: 316-361 **Lab ID: 60173798001** Collected: 07/16/14 10:30 Received: 07/17/14 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	**7580**	ug/L	750	2	07/21/14 11:15	07/23/14 15:05	7429-90-5	
Antimony	ND	ug/L	100	2	07/21/14 11:15	07/23/14 15:05	7440-36-0	D3
Arsenic	**1350**	ug/L	50.0	1	07/21/14 11:15	07/23/14 15:01	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/21/14 11:15	07/23/14 15:01	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:01	7440-43-9	
Chromium	**196**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:01	7440-47-3	
Cobalt	**41.9**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:01	7440-48-4	
Copper	ND	ug/L	50.0	1	07/21/14 11:15	07/23/14 15:01	7440-50-8	
Iron	**805000**	ug/L	250	1	07/21/14 11:15	07/23/14 15:01	7439-89-6	M1
Lead	**166**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:01	7439-92-1	
Nickel	**106**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:01	7440-02-0	
Selenium	ND	ug/L	150	2	07/21/14 11:15	07/23/14 15:05	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/21/14 11:15	07/23/14 15:01	7440-22-4	
Thallium	ND	ug/L	100	1	07/21/14 11:15	07/23/14 15:01	7440-28-0	
Zinc	**6540**	ug/L	500	2	07/21/14 11:15	07/23/14 15:05	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2280**	ug/L	750	2	07/21/14 16:15	07/23/14 14:22	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/21/14 16:15	07/23/14 14:22	7440-36-0	D3
Arsenic, Dissolved	**929**	ug/L	50.0	1	07/21/14 16:15	07/23/14 14:18	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/21/14 16:15	07/23/14 14:18	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:18	7440-43-9	
Chromium, Dissolved	**108**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:18	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:18	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/21/14 16:15	07/23/14 14:18	7440-50-8	
Iron, Dissolved	**325000**	ug/L	250	1	07/21/14 16:15	07/23/14 14:18	7439-89-6	
Lead, Dissolved	**50.3**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:18	7439-92-1	
Nickel, Dissolved	**74.4**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:18	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/21/14 16:15	07/23/14 14:22	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/21/14 16:15	07/23/14 14:18	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/21/14 16:15	07/23/14 14:18	7440-28-0	
Zinc, Dissolved	**4860**	ug/L	500	2	07/21/14 16:15	07/23/14 14:22	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**18.3**	ug/L	6.0	1	07/21/14 13:15	07/22/14 12:52	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/22/14 08:45	07/22/14 13:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/18/14 00:00	07/22/14 10:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/18/14 00:00	07/22/14 10:43	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**5820**	ug/L	4000	2	07/18/14 00:00	07/22/14 10:43		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Sample: 316-361 **Lab ID: 60173798001** Collected: 07/16/14 10:30 Received: 07/17/14 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	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	87-86-5	
Phenol	**8330**	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/18/14 00:00	07/22/14 10:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	104	%	33-120	2	07/18/14 00:00	07/22/14 10:43	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/18/14 00:00	07/22/14 10:43	321-60-8	
Terphenyl-d14 (S)	78	%	45-120	2	07/18/14 00:00	07/22/14 10:43	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	07/18/14 00:00	07/22/14 10:43	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	07/18/14 00:00	07/22/14 10:43	367-12-4	
2,4,6-Tribromophenol (S)	85	%	39-120	2	07/18/14 00:00	07/22/14 10:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**72100**	ug/L	2000	200		07/17/14 12:14	67-64-1	N2
Benzene	ND	ug/L	200	200		07/17/14 12:14	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/17/14 12:14	75-27-4	
Bromoform	ND	ug/L	200	200		07/17/14 12:14	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/17/14 12:14	74-83-9	
2-Butanone (MEK)	**28400**	ug/L	2000	200		07/17/14 12:14	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/17/14 12:14	56-23-5	
Chloroethane	ND	ug/L	200	200		07/17/14 12:14	75-00-3	
Chloroform	ND	ug/L	200	200		07/17/14 12:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/17/14 12:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/17/14 12:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/17/14 12:14	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/17/14 12:14	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/17/14 12:14	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/17/14 12:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/17/14 12:14	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/17/14 12:14	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/17/14 12:14	127-18-4	
Toluene	ND	ug/L	200	200		07/17/14 12:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/17/14 12:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/17/14 12:14	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/17/14 12:14	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/17/14 12:14	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/17/14 12:14	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		07/17/14 12:14	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		07/17/14 12:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		07/17/14 12:14	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/17/14 12:14		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**826**	mg/L	5.0	1		07/23/14 08:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Sample: 316-361 **Lab ID: 60173798001** Collected: 07/16/14 10:30 Received: 07/17/14 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	**7.9**	mg/L	5.0	1		07/23/14 14:47		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5060**	mg/L	5.0	1		07/21/14 11:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.2**	Std. Units	0.10	1		07/18/14 13:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31400**	mg/L	2.0	1	07/17/14 16:51	07/22/14 12:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**577**	mg/L	20.0	200		07/19/14 12:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**50100**	mg/L	5000	500		07/22/14 09:10		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

Sample: TRIP BLANK **Lab ID: 60173798002** Collected: 07/16/14 10:30 Received: 07/17/14 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		07/17/14 12:45	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/17/14 12:45	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/17/14 12:45	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/17/14 12:45	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/17/14 12:45	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/17/14 12:45	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/17/14 12:45	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/17/14 12:45	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/17/14 12:45	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/17/14 12:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/17/14 12:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/17/14 12:45	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/17/14 12:45	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/17/14 12:45	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/17/14 12:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/17/14 12:45	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/17/14 12:45	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/17/14 12:45	127-18-4	
Toluene	ND	ug/L	1.0	1		07/17/14 12:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/17/14 12:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/17/14 12:45	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/17/14 12:45	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/17/14 12:45	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/17/14 12:45	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		07/17/14 12:45	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/17/14 12:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		07/17/14 12:45	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/17/14 12:45		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: MERP/8608
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173798001

METHOD BLANK: 1413519 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/22/14 12:48	

LABORATORY CONTROL SAMPLE: 1413520

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413521 1413522

Parameter	Units	60173798001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	18.3	150	150	178	173	107	103	70-130	3	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: MERP/8613
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173798001

METHOD BLANK: 1413935 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/22/14 13:12	

LABORATORY CONTROL SAMPLE: 1413936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413937 1413938

Parameter	Units	60173798001 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	143	146	96	97	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: MPRP/28106
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173798001

METHOD BLANK: 1412339
Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/23/14 14:54	
Antimony	ug/L	ND	10.0	07/23/14 14:54	
Arsenic	ug/L	ND	10.0	07/23/14 14:54	
Beryllium	ug/L	ND	1.0	07/23/14 14:54	
Cadmium	ug/L	ND	5.0	07/23/14 14:54	
Chromium	ug/L	ND	5.0	07/23/14 14:54	
Cobalt	ug/L	ND	5.0	07/23/14 14:54	
Copper	ug/L	ND	10.0	07/23/14 14:54	
Iron	ug/L	ND	50.0	07/23/14 14:54	
Lead	ug/L	ND	5.0	07/23/14 14:54	
Nickel	ug/L	ND	5.0	07/23/14 14:54	
Selenium	ug/L	ND	15.0	07/23/14 14:54	
Silver	ug/L	ND	7.0	07/23/14 14:54	
Thallium	ug/L	ND	20.0	07/23/14 14:54	
Zinc	ug/L	ND	50.0	07/23/14 14:54	

LABORATORY CONTROL SAMPLE: 1412340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9780	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	968	97	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	938	94	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9080	91	85-115	
Lead	ug/L	1000	993	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	490	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1412341 1412342

Parameter	Units	60173798001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7580	50000	50000	59600	60800	104	106	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5480	5550	109	110	70-130	1	7	
Arsenic	ug/L	1350	5000	5000	6740	6970	108	112	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4710	94	94	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5370	5420	107	108	70-130	1	10	
Chromium	ug/L	196	5000	5000	4860	4890	93	94	70-130	1	10	
Cobalt	ug/L	41.9	5000	5000	4920	4930	98	98	70-130	0	6	
Copper	ug/L	ND	5000	5000	5200	5220	104	104	70-130	0	11	
Iron	ug/L	805000	50000	50000	742000	811000	-125	12	70-130	9	10	M1
Lead	ug/L	166	5000	5000	4650	4650	90	90	70-130	0	10	
Nickel	ug/L	106	5000	5000	4900	4940	96	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5570	5680	111	113	70-130	2	10	
Silver	ug/L	ND	2500	2500	2670	2680	107	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4300	4320	86	86	70-130	0	6	
Zinc	ug/L	6540	5000	5000	10100	10800	70	84	70-130	7	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: MPRP/28133
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173798001

METHOD BLANK: 1413565
Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/23/14 14:12	
Antimony, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Arsenic, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Beryllium, Dissolved	ug/L	ND	1.0	07/23/14 14:12	
Cadmium, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Chromium, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Cobalt, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Copper, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Iron, Dissolved	ug/L	ND	50.0	07/23/14 14:12	
Lead, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Nickel, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Selenium, Dissolved	ug/L	ND	15.0	07/23/14 14:12	
Silver, Dissolved	ug/L	ND	7.0	07/23/14 14:12	
Thallium, Dissolved	ug/L	ND	20.0	07/23/14 14:12	
Zinc, Dissolved	ug/L	ND	50.0	07/23/14 14:12	

LABORATORY CONTROL SAMPLE: 1413566

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1080	108	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	983	98	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	944	94	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	9510	95	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	929	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413567 1413568

Parameter	Units	60173798001 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	2280	50000	50000	52800	52900	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5680	113	113	70-130	0	7	
Arsenic, Dissolved	ug/L	929	5000	5000	6580	6540	113	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4780	4840	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5410	5440	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	108	5000	5000	4830	4900	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4930	4980	98	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5300	105	106	70-130	1	11	
Iron, Dissolved	ug/L	325000	50000	50000	383000	364000	115	78	70-130	5	10	
Lead, Dissolved	ug/L	50.3	5000	5000	4590	4640	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	74.4	5000	5000	4900	4960	96	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5720	5700	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2700	2700	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4360	4430	87	88	70-130	2	6	
Zinc, Dissolved	ug/L	4860	5000	5000	9820	9560	99	94	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: MSV/63036 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173798001, 60173798002

METHOD BLANK: 1411669 Matrix: Water
Associated Lab Samples: 60173798001, 60173798002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/17/14 10:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/17/14 10:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/17/14 10:41	
1,2-Dichloroethane	ug/L	ND	1.0	07/17/14 10:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/17/14 10:41	
2-Butanone (MEK)	ug/L	ND	10.0	07/17/14 10:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/17/14 10:41	N2
Acetone	ug/L	ND	10.0	07/17/14 10:41	N2
Benzene	ug/L	ND	1.0	07/17/14 10:41	
Bromodichloromethane	ug/L	ND	1.0	07/17/14 10:41	
Bromoform	ug/L	ND	1.0	07/17/14 10:41	
Bromomethane	ug/L	ND	5.0	07/17/14 10:41	
Carbon tetrachloride	ug/L	ND	1.0	07/17/14 10:41	
Chloroethane	ug/L	ND	1.0	07/17/14 10:41	
Chloroform	ug/L	ND	1.0	07/17/14 10:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/17/14 10:41	N2
Ethylbenzene	ug/L	ND	1.0	07/17/14 10:41	
Methylene chloride	ug/L	ND	1.0	07/17/14 10:41	
Tetrachloroethene	ug/L	ND	1.0	07/17/14 10:41	
Toluene	ug/L	ND	1.0	07/17/14 10:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/17/14 10:41	
Trichloroethene	ug/L	ND	1.0	07/17/14 10:41	
Vinyl chloride	ug/L	ND	1.0	07/17/14 10:41	
Xylene (Total)	ug/L	ND	3.0	07/17/14 10:41	N2
1,2-Dichloroethane-d4 (S)	%	100	80-120	07/17/14 10:41	
4-Bromofluorobenzene (S)	%	98	80-120	07/17/14 10:41	
Toluene-d8 (S)	%	99	80-120	07/17/14 10:41	

LABORATORY CONTROL SAMPLE: 1411670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.4	102	67-124	
1,2-Dichloroethane	ug/L	20	18.9	94	70-126	
1,4-Dichlorobenzene	ug/L	20	20.0	100	74-120	
2-Butanone (MEK)	ug/L	100	80.2	80	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.4	92	59-131	N2
Acetone	ug/L	100	74.4	74	38-134	N2
Benzene	ug/L	20	17.7	89	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

LABORATORY CONTROL SAMPLE: 1411670

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	18.9	95	68-125	
Bromoform	ug/L	20	21.9	110	65-127	
Bromomethane	ug/L	20	11.1	55	13-157	
Carbon tetrachloride	ug/L	20	18.2	91	70-131	
Chloroethane	ug/L	20	17.7	89	47-133	
Chloroform	ug/L	20	18.7	93	65-127	
cis-1,2-Dichloroethene	ug/L	20	17.7	88	68-127	N2
Ethylbenzene	ug/L	20	20.0	100	74-122	
Methylene chloride	ug/L	20	17.2	86	64-129	
Tetrachloroethene	ug/L	20	19.6	98	73-125	
Toluene	ug/L	20	18.6	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.1	90	66-129	
Trichloroethene	ug/L	20	17.8	89	71-123	
Vinyl chloride	ug/L	20	13.5	68	43-129	
Xylene (Total)	ug/L	60	58.7	98	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1411671

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3970	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3980	100	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3920	98	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3640	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4000	98	33-140	
2-Butanone (MEK)	ug/L	28400	20000	41800	67	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17900	88	40-160	N2
Acetone	ug/L	72100	20000	82600	52	10-160	N2
Benzene	ug/L	ND	4000	3540	89	37-151	
Bromodichloromethane	ug/L	ND	4000	3740	94	35-142	
Bromoform	ug/L	ND	4000	4350	109	45-142	
Bromomethane	ug/L	ND	4000	2620	65	10-158	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	4300	107	19-152	
Chloroform	ug/L	ND	4000	3680	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3670	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	101	40-142	
Methylene chloride	ug/L	ND	4000	3550	87	31-144	
Tetrachloroethene	ug/L	ND	4000	4240	106	64-148	
Toluene	ug/L	ND	4000	3620	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-151	
Trichloroethene	ug/L	ND	4000	3610	90	71-149	
Vinyl chloride	ug/L	ND	4000	4240	106	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

MATRIX SPIKE SAMPLE: 1411671

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				96	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				93	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: OEXT/45153
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173798001

METHOD BLANK: 1412205
Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/22/14 09:20	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/22/14 09:20	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/22/14 09:20	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/22/14 09:20	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/22/14 09:20	
Hexachloroethane	ug/L	ND	5.0	07/22/14 09:20	
Naphthalene	ug/L	ND	5.0	07/22/14 09:20	
Nitrobenzene	ug/L	ND	5.0	07/22/14 09:20	
Pentachlorophenol	ug/L	ND	5.0	07/22/14 09:20	
Phenol	ug/L	ND	5.0	07/22/14 09:20	
2,4,6-Tribromophenol (S)	%	81	39-120	07/22/14 09:20	
2-Fluorobiphenyl (S)	%	81	39-120	07/22/14 09:20	
2-Fluorophenol (S)	%	46	17-120	07/22/14 09:20	
Nitrobenzene-d5 (S)	%	79	33-120	07/22/14 09:20	
Phenol-d6 (S)	%	30	11-120	07/22/14 09:20	
Terphenyl-d14 (S)	%	78	45-120	07/22/14 09:20	

LABORATORY CONTROL SAMPLE: 1412206

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.5	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.2	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	56.3	113	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	62.6	63	24-120	
Hexachloroethane	ug/L	50	40.0	80	43-113	
Naphthalene	ug/L	50	43.6	87	48-120	
Nitrobenzene	ug/L	50	44.2	88	48-120	
Pentachlorophenol	ug/L	50	47.4	95	47-120	
Phenol	ug/L	50	19.3	39	16-112	
2,4,6-Tribromophenol (S)	%			93	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

MATRIX SPIKE SAMPLE: 1412207

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3420	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4110	82	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3590	72	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	5820	5000	8790	59	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4450J	89	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3110	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5090	51	11-120	
Hexachloroethane	ug/L	ND	5000	3470	69	40-113	
Naphthalene	ug/L	ND	5000	4000	74	45-120	
Nitrobenzene	ug/L	ND	5000	3830	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4460	89	43-135	
Phenol	ug/L	8330	5000	9800	29	13-112	
2,4,6-Tribromophenol (S)	%				79	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				28	11-120	
Terphenyl-d14 (S)	%				74	45-120	

MATRIX SPIKE SAMPLE: 1412208

Parameter	Units	60173799009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	52.6	11.7	22	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	52.6	18.2	35	50-120	M1
2-Methylphenol(o-Cresol)	ug/L	ND	52.6	12.8	24	30-120	M1,N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	52.6	12.5J	24	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	52.6	13.8J	26	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	52.6	9.8	19	39-116	M1
Hexachlorocyclopentadiene	ug/L	ND	105	6.3	6	11-120	M1
Hexachloroethane	ug/L	ND	52.6	10.6	20	40-113	M1
Naphthalene	ug/L	ND	52.6	13.1	25	45-120	M1
Nitrobenzene	ug/L	ND	52.6	14.1	27	38-120	M1
Pentachlorophenol	ug/L	ND	52.6	11.2	21	43-135	M1
Phenol	ug/L	ND	52.6	6.5	12	13-112	M1
2,4,6-Tribromophenol (S)	%				35	39-120	S2
2-Fluorobiphenyl (S)	%				28	39-120	S2
2-Fluorophenol (S)	%				15	17-120	S2
Nitrobenzene-d5 (S)	%				23	33-120	S2
Phenol-d6 (S)	%				11	11-120	
Terphenyl-d14 (S)	%				32	45-120	S2

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WET/49164 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173798001

METHOD BLANK: 1413885 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/23/14 08:57	

LABORATORY CONTROL SAMPLE: 1413886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.8	84	78-114	

MATRIX SPIKE SAMPLE: 1413887

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	826	160	1000	112	78-114	

SAMPLE DUPLICATE: 1413888

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.3	21.3	5	18	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WET/49163 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173798001

METHOD BLANK: 1413881 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/23/14 14:46	

LABORATORY CONTROL SAMPLE: 1413882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.3	116	64-132	

MATRIX SPIKE SAMPLE: 1413883

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.9	80	36.4	36	64-132	M1

SAMPLE DUPLICATE: 1413884

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.3	13.3	16	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WET/49138
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173798001

METHOD BLANK: 1413390
Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/21/14 11:05	

SAMPLE DUPLICATE: 1413391

Parameter	Units	60174008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	182	178	2	10	

SAMPLE DUPLICATE: 1413392

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5060	4860	4	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WET/49117
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173798001

SAMPLE DUPLICATE: 1412652

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.2	5.2	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WET/49094 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173798001

METHOD BLANK: 1412036 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/22/14 11:51	

LABORATORY CONTROL SAMPLE: 1412037

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	103	85-115	

SAMPLE DUPLICATE: 1412038

Parameter	Units	60173792001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	606	595	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WETA/30316 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173798001

METHOD BLANK: 1412883 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/19/14 11:35	

LABORATORY CONTROL SAMPLE: 1412884

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

MATRIX SPIKE SAMPLE: 1412885

Parameter	Units	60173635001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1412886

Parameter	Units	60173676002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	104	90-110	

SAMPLE DUPLICATE: 1412887

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	577	589	2	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

QC Batch: WETA/30317
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173798001

METHOD BLANK: 1413240 Matrix: Water
Associated Lab Samples: 60173798001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/22/14 09:02	

LABORATORY CONTROL SAMPLE: 1413241

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.1	94	90-110	

MATRIX SPIKE SAMPLE: 1413242

Parameter	Units	60173735008 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4480	2500	7040	102	90-110	

MATRIX SPIKE SAMPLE: 1413244

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50100	25000	73300	93	90-110	

SAMPLE DUPLICATE: 1413243

Parameter	Units	60173735010 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	93.2	104	11	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LANDFILL
Pace Project No.: 60173798

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
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 LANDFILL
Pace Project No.: 60173798

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173798001	**316-361**	EPA 200.7	MPRP/28106	EPA 200.7	ICP/21253
60173798001	**316-361**	EPA 200.7	MPRP/28133	EPA 200.7	ICP/21261
60173798001	**316-361**	EPA 245.1	MERP/8608	EPA 245.1	MERC/8563
60173798001	**316-361**	EPA 245.1	MERP/8613	EPA 245.1	MERC/8568
60173798001	**316-361**	EPA 625	OEXT/45153	EPA 625	MSSV/14478
60173798001	**316-361**	EPA 624 Low	MSV/63036		
60173798002	**TRIP BLANK**	EPA 624 Low	MSV/63036		
60173798001	**316-361**	EPA 1664A	WET/49164		
60173798001	**316-361**	EPA 1664A	WET/49163		
60173798001	**316-361**	SM 2540D	WET/49138		
60173798001	**316-361**	SM 4500-H+B	WET/49117		
60173798001	**316-361**	SM 5210B	WET/49094	SM 5210B	WET/49178
60173798001	**316-361**	EPA 350.1	WETA/30316		
60173798001	**316-361**	EPA 410.4	WETA/30317		

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Sample Condition Upon Receipt

WO#: 60173798

60173798

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 9.0

Date and initials of person examining contents: PV 7/17/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. All ice melted in cooler.
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: PV 7/17/14	☐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): 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: WI

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/17/14

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60173798
1	316-361 2AG4U 1BP3U 3AG3S	OT	G	7/16/14	1030	—	—		~~17~~ 15	10	4	1	0	1BP3S	2-5				X	X	X	X	X	X	X	X	X	X	X	1BP3N	4.0	2BP2U 5DG9U w/ ~~2DG9U~~
2	TRIP BLANK	—		—		—			2	2																X		2DG9U				pw 7/17/14
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	7-16-14	14:20	[signature] 554	7/16/14	2:20				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/17/14	0135	9.0	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: 7/16/14

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Lenexa, KS 66219
(913)599-5665

July 25, 2014

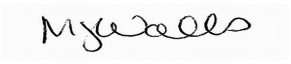
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



Mary Jane Walls
maryjane.walls@pacelabs.com
PM Lab Management

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173886001	**316-362**	Water	07/17/14 08:44	07/18/14 01:20
60173886002	**TRIP BLANK**	Water	07/17/14 08:44	07/18/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173886001	**316-362**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173886002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Sample: 316-362 **Lab ID: 60173886001** Collected: 07/17/14 08:44 Received: 07/18/14 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	**6710**	ug/L	750	2	07/21/14 11:15	07/23/14 15:27	7429-90-5	
Antimony	ND	ug/L	100	2	07/21/14 11:15	07/23/14 15:27	7440-36-0	D3
Arsenic	**1380**	ug/L	50.0	1	07/21/14 11:15	07/23/14 15:23	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/21/14 11:15	07/23/14 15:23	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:23	7440-43-9	
Chromium	**186**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:23	7440-47-3	
Cobalt	**40.1**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:23	7440-48-4	
Copper	ND	ug/L	50.0	1	07/21/14 11:15	07/23/14 15:23	7440-50-8	
Iron	**746000**	ug/L	250	1	07/21/14 11:15	07/23/14 15:23	7439-89-6	
Lead	**154**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:23	7439-92-1	
Nickel	**107**	ug/L	25.0	1	07/21/14 11:15	07/23/14 15:23	7440-02-0	
Selenium	ND	ug/L	150	2	07/21/14 11:15	07/23/14 15:27	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/21/14 11:15	07/23/14 15:23	7440-22-4	
Thallium	ND	ug/L	100	1	07/21/14 11:15	07/23/14 15:23	7440-28-0	
Zinc	**5690**	ug/L	500	2	07/21/14 11:15	07/23/14 15:27	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2550**	ug/L	750	2	07/21/14 16:15	07/23/14 14:44	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/21/14 16:15	07/23/14 14:44	7440-36-0	D3
Arsenic, Dissolved	**1040**	ug/L	50.0	1	07/21/14 16:15	07/23/14 14:40	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/21/14 16:15	07/23/14 14:40	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:40	7440-43-9	
Chromium, Dissolved	**122**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:40	7440-47-3	
Cobalt, Dissolved	**27.6**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:40	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/21/14 16:15	07/23/14 14:40	7440-50-8	
Iron, Dissolved	**366000**	ug/L	250	1	07/21/14 16:15	07/23/14 14:40	7439-89-6	
Lead, Dissolved	**69.3**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:40	7439-92-1	
Nickel, Dissolved	**79.8**	ug/L	25.0	1	07/21/14 16:15	07/23/14 14:40	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/21/14 16:15	07/23/14 14:44	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/21/14 16:15	07/23/14 14:40	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/21/14 16:15	07/23/14 14:40	7440-28-0	
Zinc, Dissolved	**4920**	ug/L	500	2	07/21/14 16:15	07/23/14 14:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**16.0**	ug/L	6.0	1	07/21/14 13:15	07/22/14 12:59	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	07/22/14 08:45	07/22/14 13:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/23/14 00:00	07/24/14 09:52	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/23/14 00:00	07/24/14 09:52	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7910**	ug/L	4000	2	07/23/14 00:00	07/24/14 09:52		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Sample: 316-362 **Lab ID: 60173886001** Collected: 07/17/14 08:44 Received: 07/18/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	87-86-5	
Phenol	**12100**	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 09:52	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	07/23/14 00:00	07/24/14 09:52	4165-60-0	
2-Fluorobiphenyl (S)	66	%	39-120	2	07/23/14 00:00	07/24/14 09:52	321-60-8	
Terphenyl-d14 (S)	67	%	45-120	2	07/23/14 00:00	07/24/14 09:52	1718-51-0	
Phenol-d6 (S)	44	%	11-120	2	07/23/14 00:00	07/24/14 09:52	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	07/23/14 00:00	07/24/14 09:52	367-12-4	
2,4,6-Tribromophenol (S)	73	%	39-120	2	07/23/14 00:00	07/24/14 09:52	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**68500**	ug/L	2000	200		07/21/14 12:47	67-64-1	N2
Benzene	ND	ug/L	200	200		07/21/14 12:47	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/21/14 12:47	75-27-4	
Bromoform	ND	ug/L	200	200		07/21/14 12:47	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/21/14 12:47	74-83-9	
2-Butanone (MEK)	**26200**	ug/L	2000	200		07/21/14 12:47	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/21/14 12:47	56-23-5	
Chloroethane	ND	ug/L	200	200		07/21/14 12:47	75-00-3	
Chloroform	ND	ug/L	200	200		07/21/14 12:47	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/21/14 12:47	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/21/14 12:47	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/21/14 12:47	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/21/14 12:47	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/21/14 12:47	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/21/14 12:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/21/14 12:47	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/21/14 12:47	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/21/14 12:47	127-18-4	
Toluene	ND	ug/L	200	200		07/21/14 12:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/21/14 12:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/21/14 12:47	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/21/14 12:47	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/21/14 12:47	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/21/14 12:47	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		07/21/14 12:47	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		07/21/14 12:47	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/21/14 12:47	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/21/14 12:47		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**824**	mg/L	5.0	1		07/23/14 08:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Sample: 316-362 **Lab ID: 60173886001** Collected: 07/17/14 08:44 Received: 07/18/14 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	**10**	mg/L	5.0	1		07/23/14 14:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3700**	mg/L	5.0	1		07/22/14 10:56		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/18/14 13:10		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31100**	mg/L	2.0	1	07/18/14 11:21	07/23/14 12:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**575**	mg/L	20.0	200		07/19/14 12:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55700**	mg/L	5000	500		07/25/14 10:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Sample: TRIP BLANK **Lab ID: 60173886002** Collected: 07/17/14 08:44 Received: 07/18/14 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/21/14 13:18	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/21/14 13:18	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/21/14 13:18	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/21/14 13:18	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/21/14 13:18	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/21/14 13:18	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/21/14 13:18	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/21/14 13:18	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/21/14 13:18	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/21/14 13:18	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/21/14 13:18	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/21/14 13:18	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/21/14 13:18	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/21/14 13:18	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/21/14 13:18	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/21/14 13:18	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/21/14 13:18	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/21/14 13:18	127-18-4	
Toluene	ND	ug/L	1.0	1		07/21/14 13:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/21/14 13:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/21/14 13:18	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/21/14 13:18	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/21/14 13:18	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/21/14 13:18	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		07/21/14 13:18	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		07/21/14 13:18	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		07/21/14 13:18	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/21/14 13:18		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: MERP/8608
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173886001

METHOD BLANK: 1413519 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/22/14 12:48	

LABORATORY CONTROL SAMPLE: 1413520

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413521 1413522

Parameter	Units	60173798001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	18.3	150	150	178	173	107	103	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: MERP/8613
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173886001

METHOD BLANK: 1413935 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/22/14 13:12	

LABORATORY CONTROL SAMPLE: 1413936

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413937 1413938

Parameter	Units	60173798001 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	143	146	96	97	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: MPRP/28106
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173886001

METHOD BLANK: 1412339
Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/23/14 14:54	
Antimony	ug/L	ND	10.0	07/23/14 14:54	
Arsenic	ug/L	ND	10.0	07/23/14 14:54	
Beryllium	ug/L	ND	1.0	07/23/14 14:54	
Cadmium	ug/L	ND	5.0	07/23/14 14:54	
Chromium	ug/L	ND	5.0	07/23/14 14:54	
Cobalt	ug/L	ND	5.0	07/23/14 14:54	
Copper	ug/L	ND	10.0	07/23/14 14:54	
Iron	ug/L	ND	50.0	07/23/14 14:54	
Lead	ug/L	ND	5.0	07/23/14 14:54	
Nickel	ug/L	ND	5.0	07/23/14 14:54	
Selenium	ug/L	ND	15.0	07/23/14 14:54	
Silver	ug/L	ND	7.0	07/23/14 14:54	
Thallium	ug/L	ND	20.0	07/23/14 14:54	
Zinc	ug/L	ND	50.0	07/23/14 14:54	

LABORATORY CONTROL SAMPLE: 1412340

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9780	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	983	98	85-115	
Beryllium	ug/L	1000	968	97	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	938	94	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	1000	100	85-115	
Iron	ug/L	10000	9080	91	85-115	
Lead	ug/L	1000	993	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	490	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	930	93	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1412341 1412342

Parameter	Units	60173798001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7580	50000	50000	59600	60800	104	106	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5480	5550	109	110	70-130	1	7	
Arsenic	ug/L	1350	5000	5000	6740	6970	108	112	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4710	94	94	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5370	5420	107	108	70-130	1	10	
Chromium	ug/L	196	5000	5000	4860	4890	93	94	70-130	1	10	
Cobalt	ug/L	41.9	5000	5000	4920	4930	98	98	70-130	0	6	
Copper	ug/L	ND	5000	5000	5200	5220	104	104	70-130	0	11	
Iron	ug/L	805000	50000	50000	742000	811000	-125	12	70-130	9	10	M1
Lead	ug/L	166	5000	5000	4650	4650	90	90	70-130	0	10	
Nickel	ug/L	106	5000	5000	4900	4940	96	97	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5570	5680	111	113	70-130	2	10	
Silver	ug/L	ND	2500	2500	2670	2680	107	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4300	4320	86	86	70-130	0	6	
Zinc	ug/L	6540	5000	5000	10100	10800	70	84	70-130	7	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: MPRP/28133
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173886001

METHOD BLANK: 1413565
Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/23/14 14:12	
Antimony, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Arsenic, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Beryllium, Dissolved	ug/L	ND	1.0	07/23/14 14:12	
Cadmium, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Chromium, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Cobalt, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Copper, Dissolved	ug/L	ND	10.0	07/23/14 14:12	
Iron, Dissolved	ug/L	ND	50.0	07/23/14 14:12	
Lead, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Nickel, Dissolved	ug/L	ND	5.0	07/23/14 14:12	
Selenium, Dissolved	ug/L	ND	15.0	07/23/14 14:12	
Silver, Dissolved	ug/L	ND	7.0	07/23/14 14:12	
Thallium, Dissolved	ug/L	ND	20.0	07/23/14 14:12	
Zinc, Dissolved	ug/L	ND	50.0	07/23/14 14:12	

LABORATORY CONTROL SAMPLE: 1413566

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1080	108	85-115	
Arsenic, Dissolved	ug/L	1000	997	100	85-115	
Beryllium, Dissolved	ug/L	1000	983	98	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	944	94	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	9510	95	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	929	93	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413567 1413568

Parameter	Units	60173798001 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	2280	50000	50000	52800	52900	101	101	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5660	5680	113	113	70-130	0	7	
Arsenic, Dissolved	ug/L	929	5000	5000	6580	6540	113	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4780	4840	96	97	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5410	5440	108	109	70-130	1	10	
Chromium, Dissolved	ug/L	108	5000	5000	4830	4900	94	96	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4930	4980	98	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5300	105	106	70-130	1	11	
Iron, Dissolved	ug/L	325000	50000	50000	383000	364000	115	78	70-130	5	10	
Lead, Dissolved	ug/L	50.3	5000	5000	4590	4640	91	92	70-130	1	10	
Nickel, Dissolved	ug/L	74.4	5000	5000	4900	4960	96	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5720	5700	114	114	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2700	2700	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4360	4430	87	88	70-130	2	6	
Zinc, Dissolved	ug/L	4860	5000	5000	9820	9560	99	94	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: MSV/63098 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60173886001, 60173886002

METHOD BLANK: 1413484 Matrix: Water
Associated Lab Samples: 60173886001, 60173886002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/21/14 12:00	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,2-Dichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/21/14 12:00	
2-Butanone (MEK)	ug/L	ND	10.0	07/21/14 12:00	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/21/14 12:00	N2
Acetone	ug/L	ND	10.0	07/21/14 12:00	N2
Benzene	ug/L	ND	1.0	07/21/14 12:00	
Bromodichloromethane	ug/L	ND	1.0	07/21/14 12:00	
Bromoform	ug/L	ND	1.0	07/21/14 12:00	
Bromomethane	ug/L	ND	5.0	07/21/14 12:00	
Carbon tetrachloride	ug/L	ND	1.0	07/21/14 12:00	
Chloroethane	ug/L	ND	1.0	07/21/14 12:00	
Chloroform	ug/L	ND	1.0	07/21/14 12:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/21/14 12:00	N2
Ethylbenzene	ug/L	ND	1.0	07/21/14 12:00	
Methylene chloride	ug/L	ND	1.0	07/21/14 12:00	
Tetrachloroethene	ug/L	ND	1.0	07/21/14 12:00	
Toluene	ug/L	ND	1.0	07/21/14 12:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/21/14 12:00	
Trichloroethene	ug/L	ND	1.0	07/21/14 12:00	
Vinyl chloride	ug/L	ND	1.0	07/21/14 12:00	
Xylene (Total)	ug/L	ND	3.0	07/21/14 12:00	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/21/14 12:00	
4-Bromofluorobenzene (S)	%	98	80-120	07/21/14 12:00	
Toluene-d8 (S)	%	98	80-120	07/21/14 12:00	

LABORATORY CONTROL SAMPLE: 1413485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.7	104	67-124	
1,2-Dichloroethane	ug/L	20	19.7	99	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	81.6	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.7	93	59-131	N2
Acetone	ug/L	100	85.8	86	38-134	N2
Benzene	ug/L	20	18.7	93	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

LABORATORY CONTROL SAMPLE: 1413485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	98	68-125	
Bromoform	ug/L	20	23.6	118	65-127	
Bromomethane	ug/L	20	15.8	79	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	68-127	N2
Ethylbenzene	ug/L	20	20.2	101	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	21.1	106	73-125	
Toluene	ug/L	20	19.2	96	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	66-129	
Trichloroethene	ug/L	20	18.7	94	71-123	
Vinyl chloride	ug/L	20	22.9	115	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1413486

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3690	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3520	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3630	91	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3300	83	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3690	91	33-140	
2-Butanone (MEK)	ug/L	26200	20000	41500	76	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15100	74	40-160	N2
Acetone	ug/L	68500	20000	85400	85	10-160	N2
Benzene	ug/L	ND	4000	3270	82	37-151	
Bromodichloromethane	ug/L	ND	4000	3430	86	35-142	
Bromoform	ug/L	ND	4000	3870	97	45-142	
Bromomethane	ug/L	ND	4000	2730	68	10-158	
Carbon tetrachloride	ug/L	ND	4000	3840	96	70-140	
Chloroethane	ug/L	ND	4000	4020	100	19-152	
Chloroform	ug/L	ND	4000	3330	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3250	81	34-147	N2
Ethylbenzene	ug/L	ND	4000	3830	96	40-142	
Methylene chloride	ug/L	ND	4000	3160	78	31-144	
Tetrachloroethene	ug/L	ND	4000	3820	96	64-148	
Toluene	ug/L	ND	4000	3300	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3500	87	54-151	
Trichloroethene	ug/L	ND	4000	3360	84	71-149	
Vinyl chloride	ug/L	ND	4000	4180	104	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

MATRIX SPIKE SAMPLE: 1413486

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11200	93	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: OEXT/45217
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60173886001

METHOD BLANK: 1414430
Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/24/14 08:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/24/14 08:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/24/14 08:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/24/14 08:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachloroethane	ug/L	ND	5.0	07/24/14 08:50	
Naphthalene	ug/L	ND	5.0	07/24/14 08:50	
Nitrobenzene	ug/L	ND	5.0	07/24/14 08:50	
Pentachlorophenol	ug/L	ND	5.0	07/24/14 08:50	
Phenol	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Tribromophenol (S)	%	66	39-120	07/24/14 08:50	
2-Fluorobiphenyl (S)	%	65	39-120	07/24/14 08:50	
2-Fluorophenol (S)	%	42	17-120	07/24/14 08:50	
Nitrobenzene-d5 (S)	%	65	33-120	07/24/14 08:50	
Phenol-d6 (S)	%	28	11-120	07/24/14 08:50	
Terphenyl-d14 (S)	%	65	45-120	07/24/14 08:50	

LABORATORY CONTROL SAMPLE: 1414431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.5	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.1	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.0	62	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.4	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.7	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.7	43	24-120	
Hexachloroethane	ug/L	50	30.9	62	43-113	
Naphthalene	ug/L	50	35.7	71	48-120	
Nitrobenzene	ug/L	50	35.6	71	48-120	
Pentachlorophenol	ug/L	50	36.8	74	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			74	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

MATRIX SPIKE SAMPLE: 1414432

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2760	55	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3430	69	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3290	66	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7910	5000	9800	38	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3630J	73	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	2430	49	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3280	33	11-120	
Hexachloroethane	ug/L	ND	5000	2710	54	40-113	
Naphthalene	ug/L	ND	5000	3200	59	45-120	
Nitrobenzene	ug/L	ND	5000	3050	61	38-120	
Pentachlorophenol	ug/L	ND	5000	3640	73	43-135	
Phenol	ug/L	12100	5000	12400	6	13-112	M1
2,4,6-Tribromophenol (S)	%				69	39-120	
2-Fluorobiphenyl (S)	%				60	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				61	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WET/49164 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173886001

METHOD BLANK: 1413885 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/23/14 08:57	

LABORATORY CONTROL SAMPLE: 1413886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.8	84	78-114	

MATRIX SPIKE SAMPLE: 1413887

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	826	160	1000	112	78-114	

SAMPLE DUPLICATE: 1413888

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.3	21.3	5	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WET/49163 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173886001

METHOD BLANK: 1413881 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/23/14 14:46	

LABORATORY CONTROL SAMPLE: 1413882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.3	116	64-132	

MATRIX SPIKE SAMPLE: 1413883

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.9	80	36.4	36	64-132	M1

SAMPLE DUPLICATE: 1413884

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.3	13.3	16	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WET/49169
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173886001

METHOD BLANK: 1413951 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/22/14 10:54	

SAMPLE DUPLICATE: 1413952

Parameter	Units	60173878002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	260	234	11	10	D6

SAMPLE DUPLICATE: 1413953

Parameter	Units	60173883001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	320	314	2	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WET/49117
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173886001

SAMPLE DUPLICATE: 1412652

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.2	5.2	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WET/49116
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173886001

METHOD BLANK: 1412394 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/23/14 11:20	

LABORATORY CONTROL SAMPLE: 1412395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	92	85-115	

SAMPLE DUPLICATE: 1412396

Parameter	Units	60173888014 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	9.3	10.3	11	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WETA/30316
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173886001

METHOD BLANK: 1412883 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/19/14 11:35	

LABORATORY CONTROL SAMPLE: 1412884

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

MATRIX SPIKE SAMPLE: 1412885

Parameter	Units	60173635001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	93	90-110	

MATRIX SPIKE SAMPLE: 1412886

Parameter	Units	60173676002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	104	90-110	

SAMPLE DUPLICATE: 1412887

Parameter	Units	60173798001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	577	589	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

QC Batch: WETA/30338
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173886001

METHOD BLANK: 1414425 Matrix: Water
Associated Lab Samples: 60173886001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/25/14 10:38	

LABORATORY CONTROL SAMPLE: 1414426

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.6	105	90-110	

MATRIX SPIKE SAMPLE: 1416003

Parameter	Units	60173802002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	197	100	289	93	90-110	

SAMPLE DUPLICATE: 1415953

Parameter	Units	60173886001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	55700	53600	4	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-362
Pace Project No.: 60173886

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173886001	**316-362**	EPA 200.7	MPRP/28106	EPA 200.7	ICP/21253
60173886001	**316-362**	EPA 200.7	MPRP/28133	EPA 200.7	ICP/21261
60173886001	**316-362**	EPA 245.1	MERP/8608	EPA 245.1	MERC/8563
60173886001	**316-362**	EPA 245.1	MERP/8613	EPA 245.1	MERC/8568
60173886001	**316-362**	EPA 625	OEXT/45217	EPA 625	MSSV/14491
60173886001	**316-362**	EPA 624 Low	MSV/63098		
60173886002	**TRIP BLANK**	EPA 624 Low	MSV/63098		
60173886001	**316-362**	EPA 1664A	WET/49164		
60173886001	**316-362**	EPA 1664A	WET/49163		
60173886001	**316-362**	SM 2540D	WET/49169		
60173886001	**316-362**	SM 4500-H+B	WET/49117		
60173886001	**316-362**	SM 5210B	WET/49116	SM 5210B	WET/49204
60173886001	**316-362**	EPA 350.1	WETA/30316		
60173886001	**316-362**	EPA 410.4	WETA/30338		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60173886

60173886

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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 7/18/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
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. RoD PA
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 4.5/2.0
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 12524
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:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: AKD Date: 7/18/14

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.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60173886
1	316-362 2AG4U 1BP3U	OT	G	7/17/14	0844	—	—		15	10	4	1	0	3AG3S			1BP3S		X	X	X	X	X	X	X	X	X	X	X		1BP3N	4.0 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	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Aaron Weber	7-17-14	2:05	[signature]	7/17/14	2:05				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/18/14	0120	5.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/17/14

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

July 28, 2014

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

RE: Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 19, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60173965001	**316-363**	Water	07/18/14 10:40	07/19/14 01:50
60173965002	**TRIP BLANK**	Water	07/18/14 08:00	07/19/14 01:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60173965001	**316-363**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60173965002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Sample: 316-363 **Lab ID: 60173965001** Collected: 07/18/14 10:40 Received: 07/19/14 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	**8980**	ug/L	750	2	07/24/14 17:45	07/25/14 11:48	7429-90-5	
Antimony	ND	ug/L	100	2	07/24/14 17:45	07/25/14 11:48	7440-36-0	D3
Arsenic	**1250**	ug/L	100	2	07/24/14 17:45	07/25/14 11:48	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/24/14 17:45	07/25/14 11:46	7440-41-7	
Cadmium	ND	ug/L	50.0	2	07/24/14 17:45	07/25/14 11:48	7440-43-9	D3
Chromium	**245**	ug/L	25.0	1	07/24/14 17:45	07/25/14 11:46	7440-47-3	
Cobalt	ND	ug/L	50.0	2	07/24/14 17:45	07/25/14 11:48	7440-48-4	D3
Copper	**67.0**	ug/L	50.0	1	07/24/14 17:45	07/25/14 11:46	7440-50-8	
Iron	**863000**	ug/L	250	1	07/24/14 17:45	07/25/14 11:46	7439-89-6	M1
Lead	**138**	ug/L	50.0	2	07/24/14 17:45	07/25/14 11:48	7439-92-1	
Nickel	**124**	ug/L	50.0	2	07/24/14 17:45	07/25/14 11:48	7440-02-0	
Selenium	ND	ug/L	150	2	07/24/14 17:45	07/25/14 11:48	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/24/14 17:45	07/25/14 11:46	7440-22-4	
Thallium	ND	ug/L	200	2	07/24/14 17:45	07/25/14 11:48	7440-28-0	D3
Zinc	**5520**	ug/L	500	2	07/24/14 17:45	07/25/14 11:48	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2850**	ug/L	750	2	07/22/14 16:25	07/25/14 10:38	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/22/14 16:25	07/25/14 10:38	7440-36-0	D3
Arsenic, Dissolved	**1090**	ug/L	50.0	1	07/22/14 16:25	07/25/14 10:35	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/22/14 16:25	07/25/14 10:35	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 10:35	7440-43-9	
Chromium, Dissolved	**132**	ug/L	25.0	1	07/22/14 16:25	07/25/14 10:35	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 10:35	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/22/14 16:25	07/25/14 10:35	7440-50-8	
Iron, Dissolved	**432000**	ug/L	250	1	07/22/14 16:25	07/25/14 10:35	7439-89-6	M1
Lead, Dissolved	**60.0**	ug/L	25.0	1	07/22/14 16:25	07/25/14 10:35	7439-92-1	
Nickel, Dissolved	**89.4**	ug/L	25.0	1	07/22/14 16:25	07/25/14 10:35	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/22/14 16:25	07/25/14 10:38	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/22/14 16:25	07/25/14 10:35	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/22/14 16:25	07/25/14 10:35	7440-28-0	
Zinc, Dissolved	**5350**	ug/L	500	2	07/22/14 16:25	07/25/14 10:38	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**12.8**	ug/L	6.0	1	07/21/14 13:15	07/22/14 13:03	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/22/14 15:00	07/23/14 09:19	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/23/14 00:00	07/24/14 10:13	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/23/14 00:00	07/24/14 10:13	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8460**	ug/L	4000	2	07/23/14 00:00	07/24/14 10:13		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Sample: 316-363 **Lab ID: 60173965001** Collected: 07/18/14 10:40 Received: 07/19/14 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	07/23/14 00:00	07/24/14 10:13	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	87-86-5	
Phenol	**13300**	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:13	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	103	%	33-120	2	07/23/14 00:00	07/24/14 10:13	4165-60-0	
2-Fluorobiphenyl (S)	65	%	39-120	2	07/23/14 00:00	07/24/14 10:13	321-60-8	
Terphenyl-d14 (S)	65	%	45-120	2	07/23/14 00:00	07/24/14 10:13	1718-51-0	
Phenol-d6 (S)	45	%	11-120	2	07/23/14 00:00	07/24/14 10:13	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	07/23/14 00:00	07/24/14 10:13	367-12-4	
2,4,6-Tribromophenol (S)	69	%	39-120	2	07/23/14 00:00	07/24/14 10:13	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**135000**	ug/L	2000	200		07/21/14 13:33	67-64-1	N2
Benzene	ND	ug/L	200	200		07/21/14 13:33	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/21/14 13:33	75-27-4	
Bromoform	ND	ug/L	200	200		07/21/14 13:33	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/21/14 13:33	74-83-9	
2-Butanone (MEK)	**52400**	ug/L	2000	200		07/21/14 13:33	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/21/14 13:33	56-23-5	
Chloroethane	ND	ug/L	200	200		07/21/14 13:33	75-00-3	
Chloroform	ND	ug/L	200	200		07/21/14 13:33	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/21/14 13:33	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/21/14 13:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/21/14 13:33	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/21/14 13:33	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/21/14 13:33	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/21/14 13:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/21/14 13:33	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/21/14 13:33	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/21/14 13:33	127-18-4	
Toluene	ND	ug/L	200	200		07/21/14 13:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/21/14 13:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/21/14 13:33	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/21/14 13:33	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/21/14 13:33	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/21/14 13:33	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	200		07/21/14 13:33	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		07/21/14 13:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/21/14 13:33	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/21/14 13:33		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**804**	mg/L	5.0	1		07/23/14 09:00		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Sample: 316-363 **Lab ID: 60173965001** Collected: 07/18/14 10:40 Received: 07/19/14 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.4**	mg/L	5.0	1		07/23/14 14:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4080**	mg/L	5.0	1		07/22/14 10:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/21/14 14:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31000**	mg/L	2.0	1	07/19/14 09:49	07/24/14 09:20		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**552**	mg/L	20.0	200		07/21/14 15:46	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**53400**	mg/L	5000	500		07/28/14 11:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Sample: TRIP BLANK **Lab ID: 60173965002** Collected: 07/18/14 08:00 Received: 07/19/14 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		07/21/14 13:49	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/21/14 13:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/21/14 13:49	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/21/14 13:49	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/21/14 13:49	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/21/14 13:49	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/21/14 13:49	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/21/14 13:49	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/21/14 13:49	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/21/14 13:49	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/21/14 13:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/21/14 13:49	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/21/14 13:49	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/21/14 13:49	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/21/14 13:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/21/14 13:49	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/21/14 13:49	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/21/14 13:49	127-18-4	
Toluene	ND	ug/L	1.0	1		07/21/14 13:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/21/14 13:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/21/14 13:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/21/14 13:49	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/21/14 13:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/21/14 13:49	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		07/21/14 13:49	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/21/14 13:49	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		07/21/14 13:49	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/21/14 13:49		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: MERP/8608
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60173965001

METHOD BLANK: 1413519 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/22/14 12:48	

LABORATORY CONTROL SAMPLE: 1413520

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1413521 1413522

Parameter	Units	60173798001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	18.3	150	150	178	173	107	103	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: MERP/8614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60173965001

METHOD BLANK: 1414283 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/23/14 09:15	

LABORATORY CONTROL SAMPLE: 1414284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414285 1414286

Parameter	Units	60173965001 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	94.8	94.8	63	63	70-130	0	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: MPRP/28168
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60173965001

METHOD BLANK: 1414621
Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/25/14 11:41	
Antimony	ug/L	ND	10.0	07/25/14 11:41	
Arsenic	ug/L	ND	10.0	07/25/14 11:41	
Beryllium	ug/L	ND	1.0	07/25/14 11:41	
Cadmium	ug/L	ND	5.0	07/25/14 11:41	
Chromium	ug/L	ND	5.0	07/25/14 11:41	
Cobalt	ug/L	ND	5.0	07/25/14 11:41	
Copper	ug/L	ND	10.0	07/25/14 11:41	
Iron	ug/L	ND	50.0	07/25/14 11:41	
Lead	ug/L	ND	5.0	07/25/14 11:41	
Nickel	ug/L	ND	5.0	07/25/14 11:41	
Selenium	ug/L	ND	15.0	07/25/14 11:41	
Silver	ug/L	ND	7.0	07/25/14 11:41	
Thallium	ug/L	ND	20.0	07/25/14 11:41	
Zinc	ug/L	ND	50.0	07/25/14 11:41	

LABORATORY CONTROL SAMPLE: 1414622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	960	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	9690	97	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	514	103	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	942	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414623 1414624

Parameter	Units	60173965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8980	50000	50000	65000	65400	112	113	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5670	5670	113	113	70-130	0	7	
Arsenic	ug/L	1250	5000	5000	6570	6680	106	108	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4780	4720	96	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5280	106	105	70-130	1	10	
Chromium	ug/L	245	5000	5000	4790	4680	91	89	70-130	2	10	
Cobalt	ug/L	ND	5000	5000	4980	4930	99	98	70-130	1	6	
Copper	ug/L	67.0	5000	5000	5790	5900	114	117	70-130	2	11	
Iron	ug/L	863000	50000	50000	802000	844000	-121	-39	70-130	5	10	M1
Lead	ug/L	138	5000	5000	4800	4790	93	93	70-130	0	10	
Nickel	ug/L	124	5000	5000	5070	5050	99	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5820	5760	116	115	70-130	1	10	
Silver	ug/L	ND	2500	2500	2710	2700	108	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4510	4460	90	89	70-130	1	6	
Zinc	ug/L	5520	5000	5000	9260	9700	75	84	70-130	5	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: MPRP/28160
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60173965001

METHOD BLANK: 1414349
Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/25/14 10:31	
Antimony, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Arsenic, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Beryllium, Dissolved	ug/L	ND	1.0	07/25/14 10:31	
Cadmium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Chromium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Cobalt, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Copper, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Iron, Dissolved	ug/L	ND	50.0	07/25/14 10:31	
Lead, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Nickel, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Selenium, Dissolved	ug/L	ND	15.0	07/25/14 10:31	
Silver, Dissolved	ug/L	ND	7.0	07/25/14 10:31	
Thallium, Dissolved	ug/L	ND	20.0	07/25/14 10:31	
Zinc, Dissolved	ug/L	ND	50.0	07/25/14 10:31	

LABORATORY CONTROL SAMPLE: 1414350

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	1080	108	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1040	104	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10800	108	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	981	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414351 1414352

Parameter	Units	60173965001 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	2850	50000	50000	54300	57300	103	109	70-130	5	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5490	5800	109	116	70-130	6	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6380	6570	106	110	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4780	95	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5260	5320	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	4950	4990	96	97	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4600	4630	92	92	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5220	5300	104	105	70-130	1	11	
Iron, Dissolved	ug/L	432000	50000	50000	427000	459000	-11	54	70-130	7	10	M1
Lead, Dissolved	ug/L	60.0	5000	5000	4390	4410	87	87	70-130	0	10	
Nickel, Dissolved	ug/L	89.4	5000	5000	4800	4840	94	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5450	5780	109	115	70-130	6	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2670	104	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4420	88	88	70-130	0	6	
Zinc, Dissolved	ug/L	5350	5000	5000	9270	10200	78	97	70-130	10	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: MSV/63098
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60173965001, 60173965002

METHOD BLANK: 1413484
Matrix: Water
Associated Lab Samples: 60173965001, 60173965002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/21/14 12:00	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,2-Dichloroethane	ug/L	ND	1.0	07/21/14 12:00	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/21/14 12:00	
2-Butanone (MEK)	ug/L	ND	10.0	07/21/14 12:00	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/21/14 12:00	N2
Acetone	ug/L	ND	10.0	07/21/14 12:00	N2
Benzene	ug/L	ND	1.0	07/21/14 12:00	
Bromodichloromethane	ug/L	ND	1.0	07/21/14 12:00	
Bromoform	ug/L	ND	1.0	07/21/14 12:00	
Bromomethane	ug/L	ND	5.0	07/21/14 12:00	
Carbon tetrachloride	ug/L	ND	1.0	07/21/14 12:00	
Chloroethane	ug/L	ND	1.0	07/21/14 12:00	
Chloroform	ug/L	ND	1.0	07/21/14 12:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/21/14 12:00	N2
Ethylbenzene	ug/L	ND	1.0	07/21/14 12:00	
Methylene chloride	ug/L	ND	1.0	07/21/14 12:00	
Tetrachloroethene	ug/L	ND	1.0	07/21/14 12:00	
Toluene	ug/L	ND	1.0	07/21/14 12:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/21/14 12:00	
Trichloroethene	ug/L	ND	1.0	07/21/14 12:00	
Vinyl chloride	ug/L	ND	1.0	07/21/14 12:00	
Xylene (Total)	ug/L	ND	3.0	07/21/14 12:00	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/21/14 12:00	
4-Bromofluorobenzene (S)	%	98	80-120	07/21/14 12:00	
Toluene-d8 (S)	%	98	80-120	07/21/14 12:00	

LABORATORY CONTROL SAMPLE: 1413485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.0	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.7	104	67-124	
1,2-Dichloroethane	ug/L	20	19.7	99	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	81.6	82	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.7	93	59-131	N2
Acetone	ug/L	100	85.8	86	38-134	N2
Benzene	ug/L	20	18.7	93	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

LABORATORY CONTROL SAMPLE: 1413485

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.7	98	68-125	
Bromoform	ug/L	20	23.6	118	65-127	
Bromomethane	ug/L	20	15.8	79	13-157	
Carbon tetrachloride	ug/L	20	20.2	101	70-131	
Chloroethane	ug/L	20	23.4	117	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	68-127	N2
Ethylbenzene	ug/L	20	20.2	101	74-122	
Methylene chloride	ug/L	20	18.8	94	64-129	
Tetrachloroethene	ug/L	20	21.1	106	73-125	
Toluene	ug/L	20	19.2	96	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.3	102	66-129	
Trichloroethene	ug/L	20	18.7	94	71-123	
Vinyl chloride	ug/L	20	22.9	115	43-129	
Xylene (Total)	ug/L	60	62.1	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1413486

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3690	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3520	88	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3630	91	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3300	83	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3690	91	33-140	
2-Butanone (MEK)	ug/L	26200	20000	41500	76	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	15100	74	40-160	N2
Acetone	ug/L	68500	20000	85400	85	10-160	N2
Benzene	ug/L	ND	4000	3270	82	37-151	
Bromodichloromethane	ug/L	ND	4000	3430	86	35-142	
Bromoform	ug/L	ND	4000	3870	97	45-142	
Bromomethane	ug/L	ND	4000	2730	68	10-158	
Carbon tetrachloride	ug/L	ND	4000	3840	96	70-140	
Chloroethane	ug/L	ND	4000	4020	100	19-152	
Chloroform	ug/L	ND	4000	3330	83	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3250	81	34-147	N2
Ethylbenzene	ug/L	ND	4000	3830	96	40-142	
Methylene chloride	ug/L	ND	4000	3160	78	31-144	
Tetrachloroethene	ug/L	ND	4000	3820	96	64-148	
Toluene	ug/L	ND	4000	3300	83	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3500	87	54-151	
Trichloroethene	ug/L	ND	4000	3360	84	71-149	
Vinyl chloride	ug/L	ND	4000	4180	104	22-146	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

MATRIX SPIKE SAMPLE: 1413486

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11200	93	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: OEXT/45217 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60173965001

METHOD BLANK: 1414430 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/24/14 08:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/24/14 08:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/24/14 08:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/24/14 08:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachloroethane	ug/L	ND	5.0	07/24/14 08:50	
Naphthalene	ug/L	ND	5.0	07/24/14 08:50	
Nitrobenzene	ug/L	ND	5.0	07/24/14 08:50	
Pentachlorophenol	ug/L	ND	5.0	07/24/14 08:50	
Phenol	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Tribromophenol (S)	%	66	39-120	07/24/14 08:50	
2-Fluorobiphenyl (S)	%	65	39-120	07/24/14 08:50	
2-Fluorophenol (S)	%	42	17-120	07/24/14 08:50	
Nitrobenzene-d5 (S)	%	65	33-120	07/24/14 08:50	
Phenol-d6 (S)	%	28	11-120	07/24/14 08:50	
Terphenyl-d14 (S)	%	65	45-120	07/24/14 08:50	

LABORATORY CONTROL SAMPLE: 1414431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.5	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.1	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.0	62	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.4	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.7	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.7	43	24-120	
Hexachloroethane	ug/L	50	30.9	62	43-113	
Naphthalene	ug/L	50	35.7	71	48-120	
Nitrobenzene	ug/L	50	35.6	71	48-120	
Pentachlorophenol	ug/L	50	36.8	74	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			74	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

MATRIX SPIKE SAMPLE: 1414432

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2760	55	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3430	69	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3290	66	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7910	5000	9800	38	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3630J	73	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	2430	49	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3280	33	11-120	
Hexachloroethane	ug/L	ND	5000	2710	54	40-113	
Naphthalene	ug/L	ND	5000	3200	59	45-120	
Nitrobenzene	ug/L	ND	5000	3050	61	38-120	
Pentachlorophenol	ug/L	ND	5000	3640	73	43-135	
Phenol	ug/L	12100	5000	12400	6	13-112	M1
2,4,6-Tribromophenol (S)	%				69	39-120	
2-Fluorobiphenyl (S)	%				60	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				61	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WET/49164 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60173965001

METHOD BLANK: 1413885 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/23/14 08:57	

LABORATORY CONTROL SAMPLE: 1413886

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.8	84	78-114	

MATRIX SPIKE SAMPLE: 1413887

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	826	160	1000	112	78-114	

SAMPLE DUPLICATE: 1413888

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.3	21.3	5	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WET/49163 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60173965001

METHOD BLANK: 1413881 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/23/14 14:46	

LABORATORY CONTROL SAMPLE: 1413882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.3	116	64-132	

MATRIX SPIKE SAMPLE: 1413883

Parameter	Units	60173798001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.9	80	36.4	36	64-132	M1

SAMPLE DUPLICATE: 1413884

Parameter	Units	60173576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.3	13.3	16	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WET/49170 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60173965001

METHOD BLANK: 1413954 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/22/14 10:50	

SAMPLE DUPLICATE: 1413955

Parameter	Units	60173929002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	7.0	15	10	D6

SAMPLE DUPLICATE: 1413956

Parameter	Units	60173956002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	336	332	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WET/49154
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60173965001

SAMPLE DUPLICATE: 1413595

Parameter	Units	60173939001 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 316-363
Pace Project No.: 60173965

QC Batch: WET/49125 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60173965001

METHOD BLANK: 1412996 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/24/14 08:59	

LABORATORY CONTROL SAMPLE: 1412997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	208	105	85-115	

SAMPLE DUPLICATE: 1412998

Parameter	Units	60173956001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	852	851	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WETA/30322 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60173965001

METHOD BLANK: 1413441 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/21/14 15:22	

LABORATORY CONTROL SAMPLE: 1413442

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

MATRIX SPIKE SAMPLE: 1413443

Parameter	Units	60173878001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2.2	2	3.6	70	90-110	M1

MATRIX SPIKE SAMPLE: 1413444

Parameter	Units	60173881001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	15.9	10	21.5	56	90-110	M1

SAMPLE DUPLICATE: 1413445

Parameter	Units	60173884001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

QC Batch: WETA/30396
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60173965001

METHOD BLANK: 1416814 Matrix: Water
Associated Lab Samples: 60173965001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/28/14 11:37	

LABORATORY CONTROL SAMPLE: 1416815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.8	92	90-110	

MATRIX SPIKE SAMPLE: 1416816

Parameter	Units	60173208002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6100	2500	8480	96	90-110	

SAMPLE DUPLICATE: 1416817

Parameter	Units	60173850001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	80.1	78.7	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-363
Pace Project No.: 60173965

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60173965001	**316-363**	EPA 200.7	MPRP/28168	EPA 200.7	ICP/21309
60173965001	**316-363**	EPA 200.7	MPRP/28160	EPA 200.7	ICP/21278
60173965001	**316-363**	EPA 245.1	MERP/8608	EPA 245.1	MERC/8563
60173965001	**316-363**	EPA 245.1	MERP/8614	EPA 245.1	MERC/8569
60173965001	**316-363**	EPA 625	OEXT/45217	EPA 625	MSSV/14491
60173965001	**316-363**	EPA 624 Low	MSV/63098		
60173965002	**TRIP BLANK**	EPA 624 Low	MSV/63098		
60173965001	**316-363**	EPA 1664A	WET/49164		
60173965001	**316-363**	EPA 1664A	WET/49163		
60173965001	**316-363**	SM 2540D	WET/49170		
60173965001	**316-363**	SM 4500-H+B	WET/49154		
60173965001	**316-363**	SM 5210B	WET/49125	SM 5210B	WET/49226
60173965001	**316-363**	EPA 350.1	WETA/30322		
60173965001	**316-363**	EPA 410.4	WETA/30396		

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Sample Condition Upon Receipt

WO#: 60173965

60173965

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ 2 pcc

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

Cooler Temperature: 4.8

Date and initials of person examining contents: AH 7/19

Temperature should be above freezing to 6°C

Chain of Custody present:	☐Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☐Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☐Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☐Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☐Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N initial pH 5.0 added 2.5mL HNO_3 final pH 4.0 BP3S initial pH 4.0 added 1mL H_2SO_4 final pH 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed AH / Lot # of added preservative 12513-2-3-2, 12524-2-5
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): COVERED		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKB Date: 7/21/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017365	
1	2(BP2U) 1(BP3U) 316-3 4.0/2.0 63 1(BP3S) 5.0/4.0 1(BP3N)	OT	G	7/18/14	1040	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 2(AG4U) 3(AG3S)	001
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2(DG9U) 002	
3																																	
4																																	
5																																	
6																																METALS LIST total & LF Dis:	
7																																Al,Sb,As,Be,Cd,Cr,	
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																																and Mercury	
10																																	
11																																	
12																																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Anton Weber	7-18-14	2:15	[signature]	7/18/14	2:15				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	7/19	01:50	4.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature]

DATE Signed: 7/18/14

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

July 28, 2014

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

RE: Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174039001	**316-364**	Water	07/19/14 16:30	07/21/14 13:50
60174039002	**TRIP BLANK**	Water	07/19/14 16:30	07/21/14 13:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174039001	**316-364**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174039002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Date: July 28, 2014

The samples were received outside of required temperature range. Analysis was completed upon client approval.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Sample: 316-364 **Lab ID: 60174039001** Collected: 07/19/14 16:30 Received: 07/21/14 13:50 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	**13200**	ug/L	750	2	07/24/14 17:45	07/25/14 12:03	7429-90-5	
Antimony	ND	ug/L	250	5	07/24/14 17:45	07/25/14 12:43	7440-36-0	D3
Arsenic	**1200**	ug/L	250	5	07/24/14 17:45	07/25/14 12:43	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/24/14 17:45	07/25/14 12:00	7440-41-7	
Cadmium	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:43	7440-43-9	D3
Chromium	**252**	ug/L	25.0	1	07/24/14 17:45	07/25/14 12:00	7440-47-3	
Cobalt	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:43	7440-48-4	D3
Copper	**82.6**	ug/L	50.0	1	07/24/14 17:45	07/25/14 12:00	7440-50-8	
Iron	**880000**	ug/L	250	1	07/24/14 17:45	07/25/14 12:00	7439-89-6	
Lead	**219**	ug/L	125	5	07/24/14 17:45	07/25/14 12:43	7439-92-1	
Nickel	**136**	ug/L	125	5	07/24/14 17:45	07/25/14 12:43	7440-02-0	
Selenium	ND	ug/L	375	5	07/24/14 17:45	07/25/14 12:43	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/24/14 17:45	07/25/14 12:00	7440-22-4	
Thallium	ND	ug/L	500	5	07/24/14 17:45	07/25/14 12:43	7440-28-0	D3
Zinc	**5890**	ug/L	1250	5	07/24/14 17:45	07/25/14 12:43	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3000**	ug/L	750	2	07/22/14 16:25	07/25/14 11:08	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/22/14 16:25	07/25/14 11:08	7440-36-0	D3
Arsenic, Dissolved	**1090**	ug/L	50.0	1	07/22/14 16:25	07/25/14 11:04	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/22/14 16:25	07/25/14 11:04	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:04	7440-43-9	
Chromium, Dissolved	**139**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:04	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:04	7440-48-4	
Copper, Dissolved	**53.2**	ug/L	50.0	1	07/22/14 16:25	07/25/14 11:04	7440-50-8	
Iron, Dissolved	**456000**	ug/L	250	1	07/22/14 16:25	07/25/14 11:04	7439-89-6	
Lead, Dissolved	**65.5**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:04	7439-92-1	
Nickel, Dissolved	**88.6**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:04	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/22/14 16:25	07/25/14 11:08	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/22/14 16:25	07/25/14 11:04	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/22/14 16:25	07/25/14 11:04	7440-28-0	
Zinc, Dissolved	**5740**	ug/L	500	2	07/22/14 16:25	07/25/14 11:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/22/14 15:00	07/23/14 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	07/22/14 15:00	07/23/14 09:26	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/23/14 00:00	07/24/14 10:34	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/23/14 00:00	07/24/14 10:34	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**5790**	ug/L	4000	2	07/23/14 00:00	07/24/14 10:34		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Sample: 316-364 **Lab ID: 60174039001** Collected: 07/19/14 16:30 Received: 07/21/14 13:50 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	07/23/14 00:00	07/24/14 10:34	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	87-86-5	
Phenol	**9160**	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:34	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	89	%	33-120	2	07/23/14 00:00	07/24/14 10:34	4165-60-0	
2-Fluorobiphenyl (S)	65	%	39-120	2	07/23/14 00:00	07/24/14 10:34	321-60-8	
Terphenyl-d14 (S)	64	%	45-120	2	07/23/14 00:00	07/24/14 10:34	1718-51-0	
Phenol-d6 (S)	42	%	11-120	2	07/23/14 00:00	07/24/14 10:34	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	07/23/14 00:00	07/24/14 10:34	367-12-4	
2,4,6-Tribromophenol (S)	73	%	39-120	2	07/23/14 00:00	07/24/14 10:34	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**85500**	ug/L	2000	200		07/23/14 19:55	67-64-1	N2
Benzene	ND	ug/L	200	200		07/23/14 19:55	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/23/14 19:55	75-27-4	
Bromoform	ND	ug/L	200	200		07/23/14 19:55	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/23/14 19:55	74-83-9	
2-Butanone (MEK)	**30300**	ug/L	2000	200		07/23/14 19:55	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/23/14 19:55	56-23-5	
Chloroethane	ND	ug/L	200	200		07/23/14 19:55	75-00-3	
Chloroform	ND	ug/L	200	200		07/23/14 19:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/23/14 19:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/23/14 19:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 19:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 19:55	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/23/14 19:55	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/23/14 19:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/23/14 19:55	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/23/14 19:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/23/14 19:55	127-18-4	
Toluene	ND	ug/L	200	200		07/23/14 19:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/23/14 19:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/23/14 19:55	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/23/14 19:55	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/23/14 19:55	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/23/14 19:55	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		07/23/14 19:55	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	200		07/23/14 19:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		07/23/14 19:55	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/23/14 19:55		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**825**	mg/L	5.0	1		07/24/14 11:58		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Sample: 316-364 **Lab ID: 60174039001** Collected: 07/19/14 16:30 Received: 07/21/14 13:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**13.0**	mg/L	5.0	1		07/24/14 12:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3720**	mg/L	5.0	1		07/22/14 10:53		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/22/14 16:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27900**	mg/L	2.0	1	07/21/14 16:10	07/26/14 08:35		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**593**	mg/L	20.0	200		07/24/14 11:10	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54900**	mg/L	5000	500		07/28/14 11:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Sample: TRIP BLANK **Lab ID: 60174039002** Collected: 07/19/14 16:30 Received: 07/21/14 13:50 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		07/23/14 19:24	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/23/14 19:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/23/14 19:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/23/14 19:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/23/14 19:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/23/14 19:24	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/23/14 19:24	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/23/14 19:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/23/14 19:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/23/14 19:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/23/14 19:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/23/14 19:24	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/23/14 19:24	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/23/14 19:24	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/23/14 19:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/23/14 19:24	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/23/14 19:24	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/23/14 19:24	127-18-4	
Toluene	ND	ug/L	1.0	1		07/23/14 19:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/23/14 19:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/23/14 19:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/23/14 19:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/23/14 19:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/23/14 19:24	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		07/23/14 19:24	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/23/14 19:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		07/23/14 19:24	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/23/14 19:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: MERP/8615
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174039001

METHOD BLANK: 1414287 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/23/14 09:33	

LABORATORY CONTROL SAMPLE: 1414288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414289 1414290

Parameter	Units	60174039001 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	125	105	84	70	70-130	17	20	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: MERP/8614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174039001

METHOD BLANK: 1414283 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/23/14 09:15	

LABORATORY CONTROL SAMPLE: 1414284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414285 1414286

Parameter	Units	60173965001 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	94.8	94.8	63	63	70-130	0	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: MPRP/28168
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174039001

METHOD BLANK: 1414621
Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/25/14 11:41	
Antimony	ug/L	ND	10.0	07/25/14 11:41	
Arsenic	ug/L	ND	10.0	07/25/14 11:41	
Beryllium	ug/L	ND	1.0	07/25/14 11:41	
Cadmium	ug/L	ND	5.0	07/25/14 11:41	
Chromium	ug/L	ND	5.0	07/25/14 11:41	
Cobalt	ug/L	ND	5.0	07/25/14 11:41	
Copper	ug/L	ND	10.0	07/25/14 11:41	
Iron	ug/L	ND	50.0	07/25/14 11:41	
Lead	ug/L	ND	5.0	07/25/14 11:41	
Nickel	ug/L	ND	5.0	07/25/14 11:41	
Selenium	ug/L	ND	15.0	07/25/14 11:41	
Silver	ug/L	ND	7.0	07/25/14 11:41	
Thallium	ug/L	ND	20.0	07/25/14 11:41	
Zinc	ug/L	ND	50.0	07/25/14 11:41	

LABORATORY CONTROL SAMPLE: 1414622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	960	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	9690	97	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	514	103	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	942	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414623 1414624

Parameter	Units	60173965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8980	50000	50000	65000	65400	112	113	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5670	5670	113	113	70-130	0	7	
Arsenic	ug/L	1250	5000	5000	6570	6680	106	108	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4780	4720	96	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5280	106	105	70-130	1	10	
Chromium	ug/L	245	5000	5000	4790	4680	91	89	70-130	2	10	
Cobalt	ug/L	ND	5000	5000	4980	4930	99	98	70-130	1	6	
Copper	ug/L	67.0	5000	5000	5790	5900	114	117	70-130	2	11	
Iron	ug/L	863000	50000	50000	802000	844000	-121	-39	70-130	5	10	M1
Lead	ug/L	138	5000	5000	4800	4790	93	93	70-130	0	10	
Nickel	ug/L	124	5000	5000	5070	5050	99	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5820	5760	116	115	70-130	1	10	
Silver	ug/L	ND	2500	2500	2710	2700	108	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4510	4460	90	89	70-130	1	6	
Zinc	ug/L	5520	5000	5000	9260	9700	75	84	70-130	5	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: MPRP/28160
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174039001

METHOD BLANK: 1414349
Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/25/14 10:31	
Antimony, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Arsenic, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Beryllium, Dissolved	ug/L	ND	1.0	07/25/14 10:31	
Cadmium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Chromium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Cobalt, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Copper, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Iron, Dissolved	ug/L	ND	50.0	07/25/14 10:31	
Lead, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Nickel, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Selenium, Dissolved	ug/L	ND	15.0	07/25/14 10:31	
Silver, Dissolved	ug/L	ND	7.0	07/25/14 10:31	
Thallium, Dissolved	ug/L	ND	20.0	07/25/14 10:31	
Zinc, Dissolved	ug/L	ND	50.0	07/25/14 10:31	

LABORATORY CONTROL SAMPLE: 1414350

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	1080	108	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1040	104	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10800	108	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	981	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414351 1414352

Parameter	Units	60173965001 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	2850	50000	50000	54300	57300	103	109	70-130	5	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5490	5800	109	116	70-130	6	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6380	6570	106	110	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4780	95	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5260	5320	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	4950	4990	96	97	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4600	4630	92	92	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5220	5300	104	105	70-130	1	11	
Iron, Dissolved	ug/L	432000	50000	50000	427000	459000	-11	54	70-130	7	10	M1
Lead, Dissolved	ug/L	60.0	5000	5000	4390	4410	87	87	70-130	0	10	
Nickel, Dissolved	ug/L	89.4	5000	5000	4800	4840	94	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5450	5780	109	115	70-130	6	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2670	104	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4420	88	88	70-130	0	6	
Zinc, Dissolved	ug/L	5350	5000	5000	9270	10200	78	97	70-130	10	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: MSV/63163
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174039001, 60174039002

METHOD BLANK: 1414971
Matrix: Water
Associated Lab Samples: 60174039001, 60174039002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/23/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/23/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/23/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/23/14 17:04	N2
Acetone	ug/L	ND	10.0	07/23/14 17:04	N2
Benzene	ug/L	ND	1.0	07/23/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	07/23/14 17:04	
Bromoform	ug/L	ND	1.0	07/23/14 17:04	
Bromomethane	ug/L	ND	5.0	07/23/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	07/23/14 17:04	
Chloroethane	ug/L	ND	1.0	07/23/14 17:04	
Chloroform	ug/L	ND	1.0	07/23/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	07/23/14 17:04	
Methylene chloride	ug/L	ND	1.0	07/23/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	07/23/14 17:04	
Toluene	ug/L	ND	1.0	07/23/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Trichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Vinyl chloride	ug/L	ND	1.0	07/23/14 17:04	
Xylene (Total)	ug/L	ND	3.0	07/23/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	07/23/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	07/23/14 17:04	
Toluene-d8 (S)	%	99	80-120	07/23/14 17:04	

LABORATORY CONTROL SAMPLE: 1414972

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	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.5	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	95	74-120	
2-Butanone (MEK)	ug/L	100	88.5	89	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.0	98	59-131	N2
Acetone	ug/L	100	87.4	87	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

LABORATORY CONTROL SAMPLE: 1414972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.5	98	68-125	
Bromoform	ug/L	20	19.5	98	65-127	
Bromomethane	ug/L	20	23.1	116	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	20.5	102	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	96	68-127	N2
Ethylbenzene	ug/L	20	19.7	98	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.1	95	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	20.3	101	43-129	
Xylene (Total)	ug/L	60	59.8	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3920	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3710	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3740	93	33-140	
2-Butanone (MEK)	ug/L	30300	20000	44700	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18000	89	40-160	N2
Acetone	ug/L	85500	20000	94600	46	10-160	N2
Benzene	ug/L	ND	4000	3600	90	37-151	
Bromodichloromethane	ug/L	ND	4000	3660	91	35-142	
Bromoform	ug/L	ND	4000	3700	92	45-142	
Bromomethane	ug/L	ND	4000	4350	109	10-158	
Carbon tetrachloride	ug/L	ND	4000	3990	100	70-140	
Chloroethane	ug/L	ND	4000	3950	99	19-152	
Chloroform	ug/L	ND	4000	3670	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3800	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3900	97	40-142	
Methylene chloride	ug/L	ND	4000	3340	80	31-144	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3500	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3790	95	54-151	
Trichloroethene	ug/L	ND	4000	3700	92	71-149	
Vinyl chloride	ug/L	ND	4000	4190	105	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: OEXT/45217 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60174039001

METHOD BLANK: 1414430 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/24/14 08:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/24/14 08:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/24/14 08:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/24/14 08:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachloroethane	ug/L	ND	5.0	07/24/14 08:50	
Naphthalene	ug/L	ND	5.0	07/24/14 08:50	
Nitrobenzene	ug/L	ND	5.0	07/24/14 08:50	
Pentachlorophenol	ug/L	ND	5.0	07/24/14 08:50	
Phenol	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Tribromophenol (S)	%	66	39-120	07/24/14 08:50	
2-Fluorobiphenyl (S)	%	65	39-120	07/24/14 08:50	
2-Fluorophenol (S)	%	42	17-120	07/24/14 08:50	
Nitrobenzene-d5 (S)	%	65	33-120	07/24/14 08:50	
Phenol-d6 (S)	%	28	11-120	07/24/14 08:50	
Terphenyl-d14 (S)	%	65	45-120	07/24/14 08:50	

LABORATORY CONTROL SAMPLE: 1414431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.5	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.1	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.0	62	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.4	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.7	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.7	43	24-120	
Hexachloroethane	ug/L	50	30.9	62	43-113	
Naphthalene	ug/L	50	35.7	71	48-120	
Nitrobenzene	ug/L	50	35.6	71	48-120	
Pentachlorophenol	ug/L	50	36.8	74	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			74	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

MATRIX SPIKE SAMPLE: 1414432

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2760	55	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3430	69	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3290	66	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7910	5000	9800	38	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3630J	73	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	2430	49	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3280	33	11-120	
Hexachloroethane	ug/L	ND	5000	2710	54	40-113	
Naphthalene	ug/L	ND	5000	3200	59	45-120	
Nitrobenzene	ug/L	ND	5000	3050	61	38-120	
Pentachlorophenol	ug/L	ND	5000	3640	73	43-135	
Phenol	ug/L	12100	5000	12400	6	13-112	M1
2,4,6-Tribromophenol (S)	%				69	39-120	
2-Fluorobiphenyl (S)	%				60	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				61	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WET/49223 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174039001

METHOD BLANK: 1415236 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/24/14 11:57	

LABORATORY CONTROL SAMPLE: 1415237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1415238

Parameter	Units	60174276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	516	41.2	514	-5	78-114	M1

SAMPLE DUPLICATE: 1415239

Parameter	Units	60173721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	28.2	30.9	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WET/49225 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174039001

METHOD BLANK: 1415242 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/24/14 12:06	

LABORATORY CONTROL SAMPLE: 1415243

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: 1415250

Parameter	Units	60173743007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	14.3	63	64-132	M1

SAMPLE DUPLICATE: 1415244

Parameter	Units	60173721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.6	20.8	12	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WET/49170 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174039001

METHOD BLANK: 1413954 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/22/14 10:50	

SAMPLE DUPLICATE: 1413955

Parameter	Units	60173929002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	7.0	15	10	D6

SAMPLE DUPLICATE: 1413956

Parameter	Units	60173956002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	336	332	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WET/49190
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174039001

SAMPLE DUPLICATE: 1414380

Parameter	Units	60174089001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WET/49157 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174039001

METHOD BLANK: 1413690 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/26/14 08:27	

LABORATORY CONTROL SAMPLE: 1413691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	185	93	85-115	

SAMPLE DUPLICATE: 1413692

Parameter	Units	60174041002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27900	27700	1	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WETA/30357
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174039001

METHOD BLANK: 1415245 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/24/14 11:03	

LABORATORY CONTROL SAMPLE: 1415246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1415247

Parameter	Units	60174095002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.3	2	3.3	98	90-110	

MATRIX SPIKE SAMPLE: 1415248

Parameter	Units	60174098002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.5	77	90-110	M1

SAMPLE DUPLICATE: 1415249

Parameter	Units	60174116011 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.8	6.6	2	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

QC Batch: WETA/30396
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60174039001

METHOD BLANK: 1416814 Matrix: Water
Associated Lab Samples: 60174039001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/28/14 11:37	

LABORATORY CONTROL SAMPLE: 1416815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.8	92	90-110	

MATRIX SPIKE SAMPLE: 1416816

Parameter	Units	60173208002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6100	2500	8480	96	90-110	

SAMPLE DUPLICATE: 1416817

Parameter	Units	60173850001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	80.1	78.7	2	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-364
Pace Project No.: 60174039

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174039001	**316-364**	EPA 200.7	MPRP/28168	EPA 200.7	ICP/21309
60174039001	**316-364**	EPA 200.7	MPRP/28160	EPA 200.7	ICP/21278
60174039001	**316-364**	EPA 245.1	MERP/8615	EPA 245.1	MERC/8570
60174039001	**316-364**	EPA 245.1	MERP/8614	EPA 245.1	MERC/8569
60174039001	**316-364**	EPA 625	OEXT/45217	EPA 625	MSSV/14491
60174039001	**316-364**	EPA 624 Low	MSV/63163		
60174039002	**TRIP BLANK**	EPA 624 Low	MSV/63163		
60174039001	**316-364**	EPA 1664A	WET/49223		
60174039001	**316-364**	EPA 1664A	WET/49225		
60174039001	**316-364**	SM 2540D	WET/49170		
60174039001	**316-364**	SM 4500-H+B	WET/49190		
60174039001	**316-364**	SM 5210B	WET/49157	SM 5210B	WET/49262
60174039001	**316-364**	EPA 350.1	WETA/30357		
60174039001	**316-364**	EPA 410.4	WETA/30396		

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Sample Condition Upon Receipt

WO#: 60174039

60174039

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 ☑ ziplc

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

Cooler Temperature: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 7/21/14

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 2-5mL of HNO3 to BP3N. 6w/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	~~☐Yes~~ ☒No ☐N/A	pv 7/21/14 added 2-0mL of H2SO4 to BP3S. 5.43.0 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	pv 7/21/14 Initial when completed pv Lot # of added preservative 12513 12524
Trip Blank present:	~~☐Yes~~ ☐No ☑N/A	
Pace Trip Blank lot # (if purchased):	pv 7/21/14	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 DUP 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: AKB

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

Person Contacted: Ed Galbraith Date/Time: 7/21/14

Comments/ Resolution: Continue w/ 624 analysis though have headspace in vial vials? 7/21/14 Per Ed - Continue w/ analysis + qualify rdmw 7/21/14

Project Manager Review: rdmw for AKB Date: 7/21/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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)	60174039
1	3AG35 316-364 2AG4U 1BP5U	OT	G	7/19/14	1630				15	10	4	1	0	1BP3U	4-0			X	X	X	X	X	X	X	X	X	X	X	1BP3S	3-0 2BP2U 5DG4U	01
2	TRIP BLANK								2	2															X				2DG4U	02
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	7-21-14	9:40am		7-21-14	0940				
SITE ADDRESS: BRIDGETON LF					7/21/14	1350	1-C	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:	Brad Vits					
SIGNATURE of SAMPLER:	Brad Vits	DATE Signed: 7/19/14				

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

July 28, 2014

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

RE: Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174041001	**TRIP BLANK**	Water	07/20/14 08:29	07/21/14 13:50
60174041002	**316-365**	Water	07/20/14 08:29	07/21/14 13:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174041001	**TRIP BLANK**	EPA 624 Low	EAK	28
60174041002	**316-365**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	NAW	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Sample: TRIP BLANK **Lab ID: 60174041001** Collected: 07/20/14 08:29 Received: 07/21/14 13:50 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		07/23/14 19:39	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/23/14 19:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/23/14 19:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/23/14 19:39	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/23/14 19:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/23/14 19:39	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/23/14 19:39	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/23/14 19:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/23/14 19:39	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/23/14 19:39	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/23/14 19:39	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/23/14 19:39	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/23/14 19:39	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/23/14 19:39	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/23/14 19:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/23/14 19:39	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/23/14 19:39	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/23/14 19:39	127-18-4	
Toluene	ND	ug/L	1.0	1		07/23/14 19:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/23/14 19:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/23/14 19:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/23/14 19:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/23/14 19:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/23/14 19:39	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		07/23/14 19:39	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/23/14 19:39	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		07/23/14 19:39	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/23/14 19:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Sample: 316-365 **Lab ID: 60174041002** Collected: 07/20/14 08:29 Received: 07/21/14 13:50 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	**11500**	ug/L	750	2	07/24/14 17:45	07/25/14 12:12	7429-90-5	
Antimony	ND	ug/L	250	5	07/24/14 17:45	07/25/14 12:46	7440-36-0	D3
Arsenic	**1260**	ug/L	250	5	07/24/14 17:45	07/25/14 12:46	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/24/14 17:45	07/25/14 12:10	7440-41-7	
Cadmium	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:46	7440-43-9	D3
Chromium	**251**	ug/L	25.0	1	07/24/14 17:45	07/25/14 12:10	7440-47-3	
Cobalt	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:46	7440-48-4	D3
Copper	**67.6**	ug/L	50.0	1	07/24/14 17:45	07/25/14 12:10	7440-50-8	
Iron	**875000**	ug/L	250	1	07/24/14 17:45	07/25/14 12:10	7439-89-6	
Lead	**153**	ug/L	125	5	07/24/14 17:45	07/25/14 12:46	7439-92-1	
Nickel	**145**	ug/L	125	5	07/24/14 17:45	07/25/14 12:46	7440-02-0	
Selenium	ND	ug/L	375	5	07/24/14 17:45	07/25/14 12:46	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/24/14 17:45	07/25/14 12:10	7440-22-4	
Thallium	ND	ug/L	500	5	07/24/14 17:45	07/25/14 12:46	7440-28-0	D3
Zinc	**6370**	ug/L	1250	5	07/24/14 17:45	07/25/14 12:46	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2800**	ug/L	750	2	07/22/14 16:25	07/25/14 11:15	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/22/14 16:25	07/25/14 11:15	7440-36-0	
Arsenic, Dissolved	**940**	ug/L	50.0	1	07/22/14 16:25	07/25/14 11:11	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/22/14 16:25	07/25/14 11:11	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:11	7440-43-9	
Chromium, Dissolved	**131**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:11	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:11	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/22/14 16:25	07/25/14 11:11	7440-50-8	
Iron, Dissolved	**405000**	ug/L	250	1	07/22/14 16:25	07/25/14 11:11	7439-89-6	
Lead, Dissolved	**49.7**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:11	7439-92-1	
Nickel, Dissolved	**82.3**	ug/L	25.0	1	07/22/14 16:25	07/25/14 11:11	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/22/14 16:25	07/25/14 11:15	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/22/14 16:25	07/25/14 11:11	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/22/14 16:25	07/25/14 11:11	7440-28-0	
Zinc, Dissolved	**5130**	ug/L	500	2	07/22/14 16:25	07/25/14 11:15	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/22/14 15:00	07/23/14 09:48	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	07/22/14 15:00	07/23/14 09:28	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/23/14 00:00	07/24/14 10:54	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/23/14 00:00	07/24/14 10:54	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6820**	ug/L	4000	2	07/23/14 00:00	07/24/14 10:54		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Sample: 316-365 **Lab ID: 60174041002** Collected: 07/20/14 08:29 Received: 07/21/14 13:50 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	07/23/14 00:00	07/24/14 10:54	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	87-86-5	
Phenol	**10100**	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/23/14 00:00	07/24/14 10:54	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	99	%	33-120	2	07/23/14 00:00	07/24/14 10:54	4165-60-0	
2-Fluorobiphenyl (S)	65	%	39-120	2	07/23/14 00:00	07/24/14 10:54	321-60-8	
Terphenyl-d14 (S)	67	%	45-120	2	07/23/14 00:00	07/24/14 10:54	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	07/23/14 00:00	07/24/14 10:54	13127-88-3	
2-Fluorophenol (S)	39	%	17-120	2	07/23/14 00:00	07/24/14 10:54	367-12-4	
2,4,6-Tribromophenol (S)	73	%	39-120	2	07/23/14 00:00	07/24/14 10:54	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**85000**	ug/L	2000	200		07/23/14 20:26	67-64-1	N2
Benzene	ND	ug/L	200	200		07/23/14 20:26	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/23/14 20:26	75-27-4	
Bromoform	ND	ug/L	200	200		07/23/14 20:26	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/23/14 20:26	74-83-9	
2-Butanone (MEK)	**31300**	ug/L	2000	200		07/23/14 20:26	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/23/14 20:26	56-23-5	
Chloroethane	ND	ug/L	200	200		07/23/14 20:26	75-00-3	
Chloroform	ND	ug/L	200	200		07/23/14 20:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/23/14 20:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/23/14 20:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:26	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:26	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/23/14 20:26	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/23/14 20:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/23/14 20:26	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/23/14 20:26	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/23/14 20:26	127-18-4	
Toluene	ND	ug/L	200	200		07/23/14 20:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/23/14 20:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/23/14 20:26	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/23/14 20:26	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/23/14 20:26	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/23/14 20:26	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		07/23/14 20:26	460-00-4	HS
Toluene-d8 (S)	97	%	80-120	200		07/23/14 20:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/23/14 20:26	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/23/14 20:26		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**843**	mg/L	5.0	1		07/24/14 11:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Sample: 316-365 **Lab ID: 60174041002** Collected: 07/20/14 08:29 Received: 07/21/14 13:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		07/24/14 12:07		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3420**	mg/L	5.0	1		07/22/14 10:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/22/14 16:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27900**	mg/L	2.0	1	07/21/14 16:12	07/26/14 08:40		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**590**	mg/L	20.0	200		07/24/14 11:11	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**51900**	mg/L	5000	500		07/28/14 11:45		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: MERP/8615
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174041002

METHOD BLANK: 1414287 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/23/14 09:33	

LABORATORY CONTROL SAMPLE: 1414288

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414289 1414290

Parameter	Units	60174039001 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	125	105	84	70	70-130	17	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: MERP/8614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174041002

METHOD BLANK: 1414283 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/23/14 09:15	

LABORATORY CONTROL SAMPLE: 1414284

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414285 1414286

Parameter	Units	60173965001 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	94.8	94.8	63	63	70-130	0	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: MPRP/28168
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174041002

METHOD BLANK: 1414621
Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/25/14 11:41	
Antimony	ug/L	ND	10.0	07/25/14 11:41	
Arsenic	ug/L	ND	10.0	07/25/14 11:41	
Beryllium	ug/L	ND	1.0	07/25/14 11:41	
Cadmium	ug/L	ND	5.0	07/25/14 11:41	
Chromium	ug/L	ND	5.0	07/25/14 11:41	
Cobalt	ug/L	ND	5.0	07/25/14 11:41	
Copper	ug/L	ND	10.0	07/25/14 11:41	
Iron	ug/L	ND	50.0	07/25/14 11:41	
Lead	ug/L	ND	5.0	07/25/14 11:41	
Nickel	ug/L	ND	5.0	07/25/14 11:41	
Selenium	ug/L	ND	15.0	07/25/14 11:41	
Silver	ug/L	ND	7.0	07/25/14 11:41	
Thallium	ug/L	ND	20.0	07/25/14 11:41	
Zinc	ug/L	ND	50.0	07/25/14 11:41	

LABORATORY CONTROL SAMPLE: 1414622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	960	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	9690	97	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	514	103	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	942	94	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414623 1414624

Parameter	Units	60173965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8980	50000	50000	65000	65400	112	113	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5670	5670	113	113	70-130	0	7	
Arsenic	ug/L	1250	5000	5000	6570	6680	106	108	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4780	4720	96	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5280	106	105	70-130	1	10	
Chromium	ug/L	245	5000	5000	4790	4680	91	89	70-130	2	10	
Cobalt	ug/L	ND	5000	5000	4980	4930	99	98	70-130	1	6	
Copper	ug/L	67.0	5000	5000	5790	5900	114	117	70-130	2	11	
Iron	ug/L	863000	50000	50000	802000	844000	-121	-39	70-130	5	10	M1
Lead	ug/L	138	5000	5000	4800	4790	93	93	70-130	0	10	
Nickel	ug/L	124	5000	5000	5070	5050	99	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5820	5760	116	115	70-130	1	10	
Silver	ug/L	ND	2500	2500	2710	2700	108	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4510	4460	90	89	70-130	1	6	
Zinc	ug/L	5520	5000	5000	9260	9700	75	84	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: MPRP/28160
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174041002

METHOD BLANK: 1414349
Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/25/14 10:31	
Antimony, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Arsenic, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Beryllium, Dissolved	ug/L	ND	1.0	07/25/14 10:31	
Cadmium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Chromium, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Cobalt, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Copper, Dissolved	ug/L	ND	10.0	07/25/14 10:31	
Iron, Dissolved	ug/L	ND	50.0	07/25/14 10:31	
Lead, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Nickel, Dissolved	ug/L	ND	5.0	07/25/14 10:31	
Selenium, Dissolved	ug/L	ND	15.0	07/25/14 10:31	
Silver, Dissolved	ug/L	ND	7.0	07/25/14 10:31	
Thallium, Dissolved	ug/L	ND	20.0	07/25/14 10:31	
Zinc, Dissolved	ug/L	ND	50.0	07/25/14 10:31	

LABORATORY CONTROL SAMPLE: 1414350

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	1080	108	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1040	104	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1010	101	85-115	
Copper, Dissolved	ug/L	1000	1050	105	85-115	
Iron, Dissolved	ug/L	10000	10800	108	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	981	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414351 1414352

Parameter	Units	60173965001 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	2850	50000	50000	54300	57300	103	109	70-130	5	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5490	5800	109	116	70-130	6	7	
Arsenic, Dissolved	ug/L	1090	5000	5000	6380	6570	106	110	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4740	4780	95	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5260	5320	105	106	70-130	1	10	
Chromium, Dissolved	ug/L	132	5000	5000	4950	4990	96	97	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4600	4630	92	92	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5220	5300	104	105	70-130	1	11	
Iron, Dissolved	ug/L	432000	50000	50000	427000	459000	-11	54	70-130	7	10	M1
Lead, Dissolved	ug/L	60.0	5000	5000	4390	4410	87	87	70-130	0	10	
Nickel, Dissolved	ug/L	89.4	5000	5000	4800	4840	94	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5450	5780	109	115	70-130	6	10	
Silver, Dissolved	ug/L	ND	2500	2500	2620	2670	104	106	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4410	4420	88	88	70-130	0	6	
Zinc, Dissolved	ug/L	5350	5000	5000	9270	10200	78	97	70-130	10	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: MSV/63163 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60174041001, 60174041002

METHOD BLANK: 1414971 Matrix: Water
Associated Lab Samples: 60174041001, 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/23/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/23/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/23/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/23/14 17:04	N2
Acetone	ug/L	ND	10.0	07/23/14 17:04	N2
Benzene	ug/L	ND	1.0	07/23/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	07/23/14 17:04	
Bromoform	ug/L	ND	1.0	07/23/14 17:04	
Bromomethane	ug/L	ND	5.0	07/23/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	07/23/14 17:04	
Chloroethane	ug/L	ND	1.0	07/23/14 17:04	
Chloroform	ug/L	ND	1.0	07/23/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	07/23/14 17:04	
Methylene chloride	ug/L	ND	1.0	07/23/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	07/23/14 17:04	
Toluene	ug/L	ND	1.0	07/23/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Trichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Vinyl chloride	ug/L	ND	1.0	07/23/14 17:04	
Xylene (Total)	ug/L	ND	3.0	07/23/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	07/23/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	07/23/14 17:04	
Toluene-d8 (S)	%	99	80-120	07/23/14 17:04	

LABORATORY CONTROL SAMPLE: 1414972

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	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.5	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	95	74-120	
2-Butanone (MEK)	ug/L	100	88.5	89	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.0	98	59-131	N2
Acetone	ug/L	100	87.4	87	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

LABORATORY CONTROL SAMPLE: 1414972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.5	98	68-125	
Bromoform	ug/L	20	19.5	98	65-127	
Bromomethane	ug/L	20	23.1	116	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	20.5	102	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	96	68-127	N2
Ethylbenzene	ug/L	20	19.7	98	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.1	95	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	20.3	101	43-129	
Xylene (Total)	ug/L	60	59.8	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3920	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3710	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3740	93	33-140	
2-Butanone (MEK)	ug/L	30300	20000	44700	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18000	89	40-160	N2
Acetone	ug/L	85500	20000	94600	46	10-160	N2
Benzene	ug/L	ND	4000	3600	90	37-151	
Bromodichloromethane	ug/L	ND	4000	3660	91	35-142	
Bromoform	ug/L	ND	4000	3700	92	45-142	
Bromomethane	ug/L	ND	4000	4350	109	10-158	
Carbon tetrachloride	ug/L	ND	4000	3990	100	70-140	
Chloroethane	ug/L	ND	4000	3950	99	19-152	
Chloroform	ug/L	ND	4000	3670	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3800	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3900	97	40-142	
Methylene chloride	ug/L	ND	4000	3340	80	31-144	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3500	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3790	95	54-151	
Trichloroethene	ug/L	ND	4000	3700	92	71-149	
Vinyl chloride	ug/L	ND	4000	4190	105	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: OEXT/45217
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174041002

METHOD BLANK: 1414430
Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/24/14 08:50	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/24/14 08:50	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/24/14 08:50	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/24/14 08:50	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/24/14 08:50	
Hexachloroethane	ug/L	ND	5.0	07/24/14 08:50	
Naphthalene	ug/L	ND	5.0	07/24/14 08:50	
Nitrobenzene	ug/L	ND	5.0	07/24/14 08:50	
Pentachlorophenol	ug/L	ND	5.0	07/24/14 08:50	
Phenol	ug/L	ND	5.0	07/24/14 08:50	
2,4,6-Tribromophenol (S)	%	66	39-120	07/24/14 08:50	
2-Fluorobiphenyl (S)	%	65	39-120	07/24/14 08:50	
2-Fluorophenol (S)	%	42	17-120	07/24/14 08:50	
Nitrobenzene-d5 (S)	%	65	33-120	07/24/14 08:50	
Phenol-d6 (S)	%	28	11-120	07/24/14 08:50	
Terphenyl-d14 (S)	%	65	45-120	07/24/14 08:50	

LABORATORY CONTROL SAMPLE: 1414431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.5	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	35.2	70	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.1	66	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.0	62	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	44.4	89	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.7	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.7	43	24-120	
Hexachloroethane	ug/L	50	30.9	62	43-113	
Naphthalene	ug/L	50	35.7	71	48-120	
Nitrobenzene	ug/L	50	35.6	71	48-120	
Pentachlorophenol	ug/L	50	36.8	74	47-120	
Phenol	ug/L	50	18.7	37	16-112	
2,4,6-Tribromophenol (S)	%			76	39-120	
2-Fluorobiphenyl (S)	%			70	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			74	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

MATRIX SPIKE SAMPLE: 1414432

Parameter	Units	60173886001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2760	55	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3430	69	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3290	66	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7910	5000	9800	38	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3630J	73	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	2430	49	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3280	33	11-120	
Hexachloroethane	ug/L	ND	5000	2710	54	40-113	
Naphthalene	ug/L	ND	5000	3200	59	45-120	
Nitrobenzene	ug/L	ND	5000	3050	61	38-120	
Pentachlorophenol	ug/L	ND	5000	3640	73	43-135	
Phenol	ug/L	12100	5000	12400	6	13-112	M1
2,4,6-Tribromophenol (S)	%				69	39-120	
2-Fluorobiphenyl (S)	%				60	39-120	
2-Fluorophenol (S)	%				39	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				61	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WET/49223 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174041002

METHOD BLANK: 1415236 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/24/14 11:57	

LABORATORY CONTROL SAMPLE: 1415237

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1415238

Parameter	Units	60174276001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	516	41.2	514	-5	78-114	M1

SAMPLE DUPLICATE: 1415239

Parameter	Units	60173721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	28.2	30.9	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WET/49225 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174041002

METHOD BLANK: 1415242 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/24/14 12:06	

LABORATORY CONTROL SAMPLE: 1415243

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: 1415250

Parameter	Units	60173743007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	14.3	63	64-132	M1

SAMPLE DUPLICATE: 1415244

Parameter	Units	60173721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.6	20.8	12	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WET/49170 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174041002

METHOD BLANK: 1413954 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/22/14 10:50	

SAMPLE DUPLICATE: 1413955

Parameter	Units	60173929002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	7.0	15	10	D6

SAMPLE DUPLICATE: 1413956

Parameter	Units	60173956002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	336	332	1	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WET/49190
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174041002

SAMPLE DUPLICATE: 1414380

Parameter	Units	60174089001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WET/49157 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174041002

METHOD BLANK: 1413690 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/26/14 08:27	

LABORATORY CONTROL SAMPLE: 1413691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	185	93	85-115	

SAMPLE DUPLICATE: 1413692

Parameter	Units	60174041002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27900	27700	1	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WETA/30357
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174041002

METHOD BLANK: 1415245 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/24/14 11:03	

LABORATORY CONTROL SAMPLE: 1415246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1415247

Parameter	Units	60174095002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.3	2	3.3	98	90-110	

MATRIX SPIKE SAMPLE: 1415248

Parameter	Units	60174098002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.5	77	90-110	M1

SAMPLE DUPLICATE: 1415249

Parameter	Units	60174116011 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.8	6.6	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

QC Batch: WETA/30396
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60174041002

METHOD BLANK: 1416814 Matrix: Water
Associated Lab Samples: 60174041002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/28/14 11:37	

LABORATORY CONTROL SAMPLE: 1416815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.8	92	90-110	

MATRIX SPIKE SAMPLE: 1416816

Parameter	Units	60173208002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6100	2500	8480	96	90-110	

SAMPLE DUPLICATE: 1416817

Parameter	Units	60173850001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	80.1	78.7	2	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-365
Pace Project No.: 60174041

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174041002	**316-365**	EPA 200.7	MPRP/28168	EPA 200.7	ICP/21309
60174041002	**316-365**	EPA 200.7	MPRP/28160	EPA 200.7	ICP/21278
60174041002	**316-365**	EPA 245.1	MERP/8615	EPA 245.1	MERC/8570
60174041002	**316-365**	EPA 245.1	MERP/8614	EPA 245.1	MERC/8569
60174041002	**316-365**	EPA 625	OEXT/45217	EPA 625	MSSV/14491
60174041001	**TRIP BLANK**	EPA 624 Low	MSV/63163		
60174041002	**316-365**	EPA 624 Low	MSV/63163		
60174041002	**316-365**	EPA 1664A	WET/49223		
60174041002	**316-365**	EPA 1664A	WET/49225		
60174041002	**316-365**	SM 2540D	WET/49170		
60174041002	**316-365**	SM 4500-H+B	WET/49190		
60174041002	**316-365**	SM 5210B	WET/49157	SM 5210B	WET/49262
60174041002	**316-365**	EPA 350.1	WETA/30357		
60174041002	**316-365**	EPA 410.4	WETA/30396		

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Sample Condition Upon Receipt

WO# : 60174041

60174041

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2-4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pk 7/21/14

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. ROs 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. 6.0/4.0 Added 2-0 mL of H2SO4 to BP3S. 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 / Lot # of added preservative 12513 12524
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 GAA 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

AKS

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

Person Contacted: Ed Galbraith Date/Time: 7/21/14

Comments/ Resolution: Continue w/ 624 analysis though have headspace in ~~vot~~ Vials? edmw 7/21/14
Per Ed - continue w/ analysis & qualify edmw 7/21/14

Project Manager Review: edmw for AKB Date: 7/21/14

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174041 ~~60173-39~~ pv 7/21/14
1	2AG4U 316-365 1BP3U 3AG3S 1BP3N 4.0	OT	G	7/20/14	0829	—	—		~~14~~ 15	10	4	1	0	1BP3S 3.0					X	X	X	X	X	X	X	X	X	X	X	2BP2U		50694 W2
2	TRIP BLANK	—		—	—	—	—		2	2																X						20694 W1
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] FSI	7-21-14	9:40a	[signature] 3015	7-21-14	0940				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/21/14	1350	2.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/20/14

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(913)599-5665

August 01, 2014

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

RE: Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 21, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174059001	**TCLP JUL2014**	Water	07/20/14 08:04	07/21/14 13:50
60174059002	**TCLP JUL2014**	Water	07/20/14 08:04	07/21/14 13:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174059001	**TCLP JUL2014**	EPA 8260	JKL	13
		EPA 1664A	CRT	1
		SM 2540B	NDL	1
60174059002	**TCLP JUL2014**	EPA 1664A	CRT	1

REPORT OF LABORATORY ANALYSIS

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PROJECT NARRATIVE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Date: August 01, 2014

Amended report revised 07/29/14 to include % solids information for TCLP extraction.
Amended report revised 08/01/14 to include results for a secondary analyses for Oil and Grease.
A secondary analysis was performed for method EPA 1664 Oil and Grease. The data was reviewed for the initial analyses as well. The associated quality control data is compliant for both the initial and secondary analyses. A direct cause is not identified for the difference in results.

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Sample: TCLP JUL2014 **Lab ID: 60174059001** Collected: 07/20/14 08:04 Received: 07/21/14 13:50 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; 07/23/14 00:00								
Benzene	**284**	ug/L	250	500	5		07/24/14 18:42	71-43-2	
2-Butanone (MEK)	**22800**	ug/L	5000	200000	5		07/24/14 18:42	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		07/24/14 18:42	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		07/24/14 18:42	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		07/24/14 18:42	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		07/24/14 18:42	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		07/24/14 18:42	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		07/24/14 18:42	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		07/24/14 18:42	79-01-6	
Vinyl chloride	ND	ug/L	100	200	5		07/24/14 18:42	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%	80-120		5		07/24/14 18:42	17060-07-0	
Toluene-d8 (S)	100	%	80-120		5		07/24/14 18:42	2037-26-5	
4-Bromofluorobenzene (S)	97	%	80-120		5		07/24/14 18:42	460-00-4	
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**123**	mg/L	5.0		1		07/23/14 14:41		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**24000**	mg/L	5.0		1		07/23/14 09:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Sample: TCLP JUL2014 **Lab ID: 60174059002** Collected: 07/20/14 08:04 Received: 07/21/14 13:50 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	**510**	mg/L	5.0		1		07/31/14 13:25		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

QC Batch: MSV/63177
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60174059001

METHOD BLANK: 1415214 Matrix: Water
Associated Lab Samples: 60174059001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	07/24/14 17:56	
1,2-Dichloroethane	ug/L	ND	50.0	07/24/14 17:56	
2-Butanone (MEK)	ug/L	ND	1000	07/24/14 17:56	
Benzene	ug/L	ND	50.0	07/24/14 17:56	
Carbon tetrachloride	ug/L	ND	50.0	07/24/14 17:56	
Chlorobenzene	ug/L	ND	50.0	07/24/14 17:56	
Chloroform	ug/L	ND	200	07/24/14 17:56	
Tetrachloroethene	ug/L	ND	50.0	07/24/14 17:56	
Trichloroethene	ug/L	ND	50.0	07/24/14 17:56	
Vinyl chloride	ug/L	ND	20.0	07/24/14 17:56	
1,2-Dichloroethane-d4 (S)	%	98	80-120	07/24/14 17:56	
4-Bromofluorobenzene (S)	%	100	80-120	07/24/14 17:56	
Toluene-d8 (S)	%	99	80-120	07/24/14 17:56	

LABORATORY CONTROL SAMPLE: 1415215

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	900	90	78-126	
1,2-Dichloroethane	ug/L	1000	1010	101	77-123	
2-Butanone (MEK)	ug/L	5000	5160	103	52-145	
Benzene	ug/L	1000	950	95	80-120	
Carbon tetrachloride	ug/L	1000	981	98	78-128	
Chlorobenzene	ug/L	1000	957	96	80-120	
Chloroform	ug/L	1000	1010	101	79-120	
Tetrachloroethene	ug/L	1000	938	94	80-121	
Trichloroethene	ug/L	1000	947	95	80-120	
Vinyl chloride	ug/L	1000	848	85	59-120	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1415216

Parameter	Units	60173955001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	10000	12500	125	60-144	
1,2-Dichloroethane	ug/L	ND	10000	16400	164	49-148	M1
2-Butanone (MEK)	ug/L	13000	50000	84300	142	36-145	
Benzene	ug/L	ND	10000	16200	162	37-157	M1

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

MATRIX SPIKE SAMPLE: 1415216

Parameter	Units	60173955001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	10000	16000	160	68-142	M1
Chlorobenzene	ug/L	ND	10000	17000	170	66-133	M1
Chloroform	ug/L	ND	10000	14500	145	66-127	M1
Tetrachloroethene	ug/L	ND	10000	16100	161	69-133	M1
Trichloroethene	ug/L	ND	10000	16300	163	61-135	M1
Vinyl chloride	ug/L	ND	10000	10300	103	44-128	
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

QC Batch: WET/49208 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174059001

METHOD BLANK: 1415003 Matrix: Water
Associated Lab Samples: 60174059001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/23/14 14:37	

LABORATORY CONTROL SAMPLE: 1415004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.1	88	78-114	

MATRIX SPIKE SAMPLE: 1415005

Parameter	Units	60173677001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	37.2	92	78-114	

SAMPLE DUPLICATE: 1415006

Parameter	Units	60173704003 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	15.7	17.6	11	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

QC Batch: WET/49350 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174059002

METHOD BLANK: 1418690 Matrix: Water
Associated Lab Samples: 60174059002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/31/14 13:24	

LABORATORY CONTROL SAMPLE: 1418691

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.8	100	78-114	

MATRIX SPIKE SAMPLE: 1418693

Parameter	Units	60174689002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	223	41.7	254	74	78-114	M1

SAMPLE DUPLICATE: 1418692

Parameter	Units	60174689001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	563	583	4	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

QC Batch: WET/49202 Analysis Method: SM 2540B
QC Batch Method: SM 2540B Analysis Description: 2540B Total Solids
Associated Lab Samples: 60174059001

METHOD BLANK: 1414572 Matrix: Water
Associated Lab Samples: 60174059001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	07/23/14 09:19	

LABORATORY CONTROL SAMPLE: 1414573

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 1414574

Parameter	Units	60174164001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	15600	15600	0	10	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON UNTREATED COMMINGLED
Pace Project No.: 60174059

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174059001	**TCLP JUL2014**	EPA 8260	MSV/63177		
60174059001	**TCLP JUL2014**	EPA 1664A	WET/49208		
60174059002	**TCLP JUL2014**	EPA 1664A	WET/49350		
60174059001	**TCLP JUL2014**	SM 2540B	WET/49202		

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Sample Condition Upon Receipt

WO# : 60174059

60174059

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 ☐

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: AV 7/21/14

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): _____		15. no TB receive
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: AMW for AKB Date: 7/21/14

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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:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR-BARR
Purchase Order No.:	PO 3727110
Project Name:	BRIDGETON UNTREATED COMMINGLED
Project Number:	

Section C Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	
Pace Project Manager:	Angie Brown 913-563-1402
Pace Profile #:	PROFILE 6787-LINE 6

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

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

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 JUL 2014	ST	C	7/20/14	0804	—	—		5	3	2			VB	PB	U			✓	✓	✓	2 AG 3S		2 AG 1M		001	60174059
2	TRIP BLANK	WT	G	—	—	—	—		2				2						X								** total VOCs Bridgeton List
3																											* footnote %dry solids TCLP
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	FEI	7-21-14	9:40am		7-21-14	0940				
				PACE	7/21/14	1350	3-8	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 7/20/14

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

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Date: 7/22/14 Batch: 64824

Analyst: CEM Balance ID: CCCCEXT5 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)
60174650.001	117.0	266.1	116.3	1.3	117.9	258.6	3.1	142.3	145.2	4.0%	1.5	1.5	0.1%	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 7/22/14

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 = $\frac{\text{mL of leachate required}}{20 \times \text{Percent solids}} \times 100$

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

July 30, 2014

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

RE: Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 23, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174187001	**316-366**	Water	07/21/14 10:02	07/23/14 02:30
60174187002	**TRIP BLANK**	Water	07/21/14 10:02	07/23/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174187001	**316-366**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174187002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Sample: 316-366 **Lab ID: 60174187001** Collected: 07/21/14 10:02 Received: 07/23/14 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	**5220**	ug/L	750	2	07/24/14 17:45	07/25/14 12:17	7429-90-5	
Antimony	ND	ug/L	250	5	07/24/14 17:45	07/25/14 12:48	7440-36-0	D3
Arsenic	**877**	ug/L	250	5	07/24/14 17:45	07/25/14 12:48	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/24/14 17:45	07/25/14 12:15	7440-41-7	
Cadmium	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:48	7440-43-9	D3
Chromium	**177**	ug/L	25.0	1	07/24/14 17:45	07/25/14 12:15	7440-47-3	
Cobalt	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:48	7440-48-4	D3
Copper	ND	ug/L	50.0	1	07/24/14 17:45	07/25/14 12:15	7440-50-8	
Iron	**520000**	ug/L	250	1	07/24/14 17:45	07/25/14 12:15	7439-89-6	
Lead	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:48	7439-92-1	D3
Nickel	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:48	7440-02-0	D3
Selenium	ND	ug/L	375	5	07/24/14 17:45	07/25/14 12:48	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/24/14 17:45	07/25/14 12:15	7440-22-4	
Thallium	ND	ug/L	500	5	07/24/14 17:45	07/25/14 12:48	7440-28-0	D3
Zinc	**5080**	ug/L	1250	5	07/24/14 17:45	07/25/14 12:48	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2300**	ug/L	750	2	07/24/14 17:45	07/28/14 14:52	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/24/14 17:45	07/28/14 14:52	7440-36-0	D3
Arsenic, Dissolved	**796**	ug/L	50.0	1	07/24/14 17:45	07/28/14 14:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/24/14 17:45	07/28/14 14:48	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 14:48	7440-43-9	
Chromium, Dissolved	**118**	ug/L	25.0	1	07/24/14 17:45	07/28/14 14:48	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 14:48	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/24/14 17:45	07/28/14 14:48	7440-50-8	
Iron, Dissolved	**355000**	ug/L	250	1	07/24/14 17:45	07/28/14 14:48	7439-89-6	
Lead, Dissolved	**57.7**	ug/L	25.0	1	07/24/14 17:45	07/28/14 14:48	7439-92-1	
Nickel, Dissolved	**70.4**	ug/L	25.0	1	07/24/14 17:45	07/28/14 14:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/24/14 17:45	07/28/14 14:52	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/24/14 17:45	07/28/14 14:48	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/24/14 17:45	07/28/14 14:48	7440-28-0	
Zinc, Dissolved	**4830**	ug/L	500	2	07/24/14 17:45	07/28/14 14:52	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**25.0**	ug/L	6.0	1	07/24/14 08:30	07/24/14 14:08	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/25/14 08:30	07/25/14 13:34	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/25/14 00:00	07/27/14 14:05	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/25/14 00:00	07/27/14 14:05	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6980**	ug/L	4000	2	07/25/14 00:00	07/27/14 14:05		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Sample: 316-366 **Lab ID: 60174187001** Collected: 07/21/14 10:02 Received: 07/23/14 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	87-86-5	
Phenol	**10800**	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:05	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	117	%	33-120	2	07/25/14 00:00	07/27/14 14:05	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/25/14 00:00	07/27/14 14:05	321-60-8	
Terphenyl-d14 (S)	77	%	45-120	2	07/25/14 00:00	07/27/14 14:05	1718-51-0	
Phenol-d6 (S)	44	%	11-120	2	07/25/14 00:00	07/27/14 14:05	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	07/25/14 00:00	07/27/14 14:05	367-12-4	
2,4,6-Tribromophenol (S)	82	%	39-120	2	07/25/14 00:00	07/27/14 14:05	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**83200**	ug/L	2000	200		07/23/14 20:41	67-64-1	N2
Benzene	ND	ug/L	200	200		07/23/14 20:41	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/23/14 20:41	75-27-4	
Bromoform	ND	ug/L	200	200		07/23/14 20:41	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/23/14 20:41	74-83-9	
2-Butanone (MEK)	**29900**	ug/L	2000	200		07/23/14 20:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/23/14 20:41	56-23-5	
Chloroethane	ND	ug/L	200	200		07/23/14 20:41	75-00-3	
Chloroform	ND	ug/L	200	200		07/23/14 20:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/23/14 20:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/23/14 20:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:41	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/23/14 20:41	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/23/14 20:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/23/14 20:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/23/14 20:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/23/14 20:41	127-18-4	
Toluene	ND	ug/L	200	200		07/23/14 20:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/23/14 20:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/23/14 20:41	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/23/14 20:41	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/23/14 20:41	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/23/14 20:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/23/14 20:41	460-00-4	
Toluene-d8 (S)	95	%	80-120	200		07/23/14 20:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/23/14 20:41	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/23/14 20:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1020**	mg/L	5.0	1		07/28/14 08:49		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Sample: 316-366 **Lab ID: 60174187001** Collected: 07/21/14 10:02 Received: 07/23/14 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	**6.7**	mg/L	5.0	1		07/28/14 08:57		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3140**	mg/L	5.0	1		07/23/14 09:27		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/25/14 11:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27700**	mg/L	2.0	1	07/23/14 09:35	07/28/14 09:20		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**654**	mg/L	20.0	200		07/24/14 11:48	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54400**	mg/L	5000	500		07/30/14 09:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Sample: TRIP BLANK **Lab ID: 60174187002** Collected: 07/21/14 10:02 Received: 07/23/14 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		07/24/14 12:14	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/24/14 12:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/24/14 12:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/24/14 12:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 12:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 12:14	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/24/14 12:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/24/14 12:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/24/14 12:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/24/14 12:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/24/14 12:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 12:14	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 12:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/24/14 12:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/24/14 12:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 12:14	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/24/14 12:14	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/24/14 12:14	127-18-4	
Toluene	ND	ug/L	1.0	1		07/24/14 12:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/24/14 12:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/24/14 12:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/24/14 12:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/24/14 12:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/24/14 12:14	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		07/24/14 12:14	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/24/14 12:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		07/24/14 12:14	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/24/14 12:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MERP/8622
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174187001

METHOD BLANK: 1415183 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/24/14 13:57	

LABORATORY CONTROL SAMPLE: 1415184

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: 1415185 1415186

Parameter	Units	60173802002 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	5.6	5.3	111	106	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MERP/8628
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174187001

METHOD BLANK: 1415981 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/25/14 13:30	

LABORATORY CONTROL SAMPLE: 1415982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415983 1415984

Parameter	Units	60174187001 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	139	146	92	97	70-130	5	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MPRP/28168
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174187001

METHOD BLANK: 1414621
Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/25/14 11:41	
Antimony	ug/L	ND	10.0	07/25/14 11:41	
Arsenic	ug/L	ND	10.0	07/25/14 11:41	
Beryllium	ug/L	ND	1.0	07/25/14 11:41	
Cadmium	ug/L	ND	5.0	07/25/14 11:41	
Chromium	ug/L	ND	5.0	07/25/14 11:41	
Cobalt	ug/L	ND	5.0	07/25/14 11:41	
Copper	ug/L	ND	10.0	07/25/14 11:41	
Iron	ug/L	ND	50.0	07/25/14 11:41	
Lead	ug/L	ND	5.0	07/25/14 11:41	
Nickel	ug/L	ND	5.0	07/25/14 11:41	
Selenium	ug/L	ND	15.0	07/25/14 11:41	
Silver	ug/L	ND	7.0	07/25/14 11:41	
Thallium	ug/L	ND	20.0	07/25/14 11:41	
Zinc	ug/L	ND	50.0	07/25/14 11:41	

LABORATORY CONTROL SAMPLE: 1414622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	960	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	9690	97	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	514	103	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	942	94	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414623 1414624

Parameter	Units	60173965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8980	50000	50000	65000	65400	112	113	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5670	5670	113	113	70-130	0	7	
Arsenic	ug/L	1250	5000	5000	6570	6680	106	108	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4780	4720	96	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5280	106	105	70-130	1	10	
Chromium	ug/L	245	5000	5000	4790	4680	91	89	70-130	2	10	
Cobalt	ug/L	ND	5000	5000	4980	4930	99	98	70-130	1	6	
Copper	ug/L	67.0	5000	5000	5790	5900	114	117	70-130	2	11	
Iron	ug/L	863000	50000	50000	802000	844000	-121	-39	70-130	5	10	M1
Lead	ug/L	138	5000	5000	4800	4790	93	93	70-130	0	10	
Nickel	ug/L	124	5000	5000	5070	5050	99	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5820	5760	116	115	70-130	1	10	
Silver	ug/L	ND	2500	2500	2710	2700	108	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4510	4460	90	89	70-130	1	6	
Zinc	ug/L	5520	5000	5000	9260	9700	75	84	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MPRP/28210
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174187001

METHOD BLANK: 1415813
Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/28/14 14:45	
Antimony, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Arsenic, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Beryllium, Dissolved	ug/L	ND	1.0	07/28/14 14:45	
Cadmium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Chromium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Cobalt, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Copper, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Iron, Dissolved	ug/L	ND	50.0	07/28/14 14:45	
Lead, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Nickel, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Selenium, Dissolved	ug/L	ND	15.0	07/28/14 14:45	
Silver, Dissolved	ug/L	ND	7.0	07/28/14 14:45	
Thallium, Dissolved	ug/L	ND	20.0	07/28/14 14:45	
Zinc, Dissolved	ug/L	ND	50.0	07/28/14 14:45	

LABORATORY CONTROL SAMPLE: 1415814

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	962	96	85-115	
Beryllium, Dissolved	ug/L	1000	982	98	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	998	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	992	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	961	96	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	971	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415815 1415816

Parameter	Units	60174187001 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	2300	50000	50000	51000	52100	97	100	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5370	105	107	70-130	2	7	
Arsenic, Dissolved	ug/L	796	5000	5000	6200	6260	108	109	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4650	4690	93	94	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5280	104	106	70-130	1	10	
Chromium, Dissolved	ug/L	118	5000	5000	4990	5000	97	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5100	5140	101	102	70-130	1	11	
Iron, Dissolved	ug/L	355000	50000	50000	405000	403000	100	96	70-130	0	10	
Lead, Dissolved	ug/L	57.7	5000	5000	4690	4660	93	92	70-130	0	10	
Nickel, Dissolved	ug/L	70.4	5000	5000	4820	4880	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5400	5500	108	110	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2720	109	109	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4350	4390	87	88	70-130	1	6	
Zinc, Dissolved	ug/L	4830	5000	5000	9620	9800	96	99	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MSV/63163
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174187001

METHOD BLANK: 1414971
Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/23/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/23/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/23/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/23/14 17:04	N2
Acetone	ug/L	ND	10.0	07/23/14 17:04	N2
Benzene	ug/L	ND	1.0	07/23/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	07/23/14 17:04	
Bromoform	ug/L	ND	1.0	07/23/14 17:04	
Bromomethane	ug/L	ND	5.0	07/23/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	07/23/14 17:04	
Chloroethane	ug/L	ND	1.0	07/23/14 17:04	
Chloroform	ug/L	ND	1.0	07/23/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	07/23/14 17:04	
Methylene chloride	ug/L	ND	1.0	07/23/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	07/23/14 17:04	
Toluene	ug/L	ND	1.0	07/23/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Trichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Vinyl chloride	ug/L	ND	1.0	07/23/14 17:04	
Xylene (Total)	ug/L	ND	3.0	07/23/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	07/23/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	07/23/14 17:04	
Toluene-d8 (S)	%	99	80-120	07/23/14 17:04	

LABORATORY CONTROL SAMPLE: 1414972

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	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.5	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	95	74-120	
2-Butanone (MEK)	ug/L	100	88.5	89	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.0	98	59-131	N2
Acetone	ug/L	100	87.4	87	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

LABORATORY CONTROL SAMPLE: 1414972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.5	98	68-125	
Bromoform	ug/L	20	19.5	98	65-127	
Bromomethane	ug/L	20	23.1	116	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	20.5	102	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	96	68-127	N2
Ethylbenzene	ug/L	20	19.7	98	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.1	95	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	20.3	101	43-129	
Xylene (Total)	ug/L	60	59.8	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3920	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3710	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3740	93	33-140	
2-Butanone (MEK)	ug/L	30300	20000	44700	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18000	89	40-160	N2
Acetone	ug/L	85500	20000	94600	46	10-160	N2
Benzene	ug/L	ND	4000	3600	90	37-151	
Bromodichloromethane	ug/L	ND	4000	3660	91	35-142	
Bromoform	ug/L	ND	4000	3700	92	45-142	
Bromomethane	ug/L	ND	4000	4350	109	10-158	
Carbon tetrachloride	ug/L	ND	4000	3990	100	70-140	
Chloroethane	ug/L	ND	4000	3950	99	19-152	
Chloroform	ug/L	ND	4000	3670	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3800	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3900	97	40-142	
Methylene chloride	ug/L	ND	4000	3340	80	31-144	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3500	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3790	95	54-151	
Trichloroethene	ug/L	ND	4000	3700	92	71-149	
Vinyl chloride	ug/L	ND	4000	4190	105	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: MSV/63186
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174187002

METHOD BLANK: 1415373
Matrix: Water
Associated Lab Samples: 60174187002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/24/14 11:43	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,2-Dichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:43	
2-Butanone (MEK)	ug/L	ND	10.0	07/24/14 11:43	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/24/14 11:43	N2
Acetone	ug/L	ND	10.0	07/24/14 11:43	N2
Benzene	ug/L	ND	1.0	07/24/14 11:43	
Bromodichloromethane	ug/L	ND	1.0	07/24/14 11:43	
Bromoform	ug/L	ND	1.0	07/24/14 11:43	
Bromomethane	ug/L	ND	5.0	07/24/14 11:43	
Carbon tetrachloride	ug/L	ND	1.0	07/24/14 11:43	
Chloroethane	ug/L	ND	1.0	07/24/14 11:43	
Chloroform	ug/L	ND	1.0	07/24/14 11:43	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	N2
Ethylbenzene	ug/L	ND	1.0	07/24/14 11:43	
Methylene chloride	ug/L	ND	1.0	07/24/14 11:43	
Tetrachloroethene	ug/L	ND	1.0	07/24/14 11:43	
Toluene	ug/L	ND	1.0	07/24/14 11:43	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Trichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Vinyl chloride	ug/L	ND	1.0	07/24/14 11:43	
Xylene (Total)	ug/L	ND	3.0	07/24/14 11:43	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	07/24/14 11:43	
4-Bromofluorobenzene (S)	%	100	80-120	07/24/14 11:43	
Toluene-d8 (S)	%	103	80-120	07/24/14 11:43	

LABORATORY CONTROL SAMPLE: 1415374

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	21.6	108	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	104	67-124	
1,2-Dichloroethane	ug/L	20	19.8	99	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	95.3	95	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	99.4	99	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

LABORATORY CONTROL SAMPLE: 1415374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.4	102	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	21.9	110	13-157	
Carbon tetrachloride	ug/L	20	19.3	97	70-131	
Chloroethane	ug/L	20	19.6	98	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.5	97	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.9	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	96	66-129	
Trichloroethene	ug/L	20	18.8	94	71-123	
Vinyl chloride	ug/L	20	19.6	98	43-129	
Xylene (Total)	ug/L	60	59.6	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	100	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4200	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3980	100	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3670	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	94	33-140	
2-Butanone (MEK)	ug/L	31000	20000	50500	97	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21100	104	40-160	N2
Acetone	ug/L	87400	20000	109000	109	10-160	N2
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	97	35-142	
Bromoform	ug/L	ND	4000	3890	97	45-142	
Bromomethane	ug/L	ND	4000	4400	110	10-158	
Carbon tetrachloride	ug/L	ND	4000	4060	102	70-140	
Chloroethane	ug/L	ND	4000	3990	100	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	3340	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3930	98	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-151	
Trichloroethene	ug/L	ND	4000	3800	95	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: OEXT/45281
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174187001

METHOD BLANK: 1415933
Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/27/14 13:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/27/14 13:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/27/14 13:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/27/14 13:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachloroethane	ug/L	ND	5.0	07/27/14 13:03	
Naphthalene	ug/L	ND	5.0	07/27/14 13:03	
Nitrobenzene	ug/L	ND	5.0	07/27/14 13:03	
Pentachlorophenol	ug/L	ND	5.0	07/27/14 13:03	
Phenol	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Tribromophenol (S)	%	84	39-120	07/27/14 13:03	
2-Fluorobiphenyl (S)	%	91	39-120	07/27/14 13:03	
2-Fluorophenol (S)	%	52	17-120	07/27/14 13:03	
Nitrobenzene-d5 (S)	%	94	33-120	07/27/14 13:03	
Phenol-d6 (S)	%	36	11-120	07/27/14 13:03	
Terphenyl-d14 (S)	%	91	45-120	07/27/14 13:03	

LABORATORY CONTROL SAMPLE: 1415934

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	38.7	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.3	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.2	66	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.7	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.4	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.3	64	24-120	
Hexachloroethane	ug/L	50	37.8	76	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.1	82	48-120	
Pentachlorophenol	ug/L	50	30.0	60	47-120	
Phenol	ug/L	50	19.7	39	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

MATRIX SPIKE SAMPLE: 1415935

Parameter	Units	60174010002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.78	53.2	42.5	80	44-120	
2,4,6-Trichlorophenol	ug/L	<1.6	53.2	40.7	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	<0.94	53.2	29.4	55	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	<0.83	53.2	29.6	56	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	<0.76	53.2	44.6	84	10-160	
Hexachloro-1,3-butadiene	ug/L	<1.0	53.2	40.5	76	39-116	
Hexachlorocyclopentadiene	ug/L	<2.3	106	72.0	68	11-120	
Hexachloroethane	ug/L	<0.66	53.2	40.8	77	40-113	
Naphthalene	ug/L	<0.62	53.2	41.9	79	45-120	
Nitrobenzene	ug/L	<0.69	53.2	53.2	100	38-120	
Pentachlorophenol	ug/L	<1.8	53.2	41.9	79	43-135	
Phenol	ug/L	<0.54	53.2	18.1	34	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				82	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				80	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WET/49265 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174187001

METHOD BLANK: 1416859 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/28/14 08:49	

LABORATORY CONTROL SAMPLE: 1416860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.9	87	78-114	

MATRIX SPIKE SAMPLE: 1416861

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	7.3	40.4	43.1	89	78-114	

SAMPLE DUPLICATE: 1416862

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	996	849	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WET/49266 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174187001

METHOD BLANK: 1416863 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/28/14 08:56	

LABORATORY CONTROL SAMPLE: 1416864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.5	118	64-132	

MATRIX SPIKE SAMPLE: 1416865

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	14.9	62	64-132	M1

SAMPLE DUPLICATE: 1416866

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.0	11.2	15	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WET/49200
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174187001

METHOD BLANK: 1414556
Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/23/14 09:23	

SAMPLE DUPLICATE: 1414557

Parameter	Units	60174058004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	7.0	15	10	D6

SAMPLE DUPLICATE: 1414558

Parameter	Units	60174164001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6500	6860	5	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WET/49250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174187001

SAMPLE DUPLICATE: 1416165

Parameter	Units	60174187001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.3	5.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WET/49198
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174187001

METHOD BLANK: 1414533 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/28/14 09:09	

LABORATORY CONTROL SAMPLE: 1414534

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	189	95	85-115	

SAMPLE DUPLICATE: 1414535

Parameter	Units	60174188001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5890	5890	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WETA/30358 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174187001

METHOD BLANK: 1415253 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/24/14 11:36	

LABORATORY CONTROL SAMPLE: 1415254

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

MATRIX SPIKE SAMPLE: 1415255

Parameter	Units	60174165003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	112	90-110	M1

MATRIX SPIKE SAMPLE: 1415256

Parameter	Units	60174165006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	117	90-110	M1

SAMPLE DUPLICATE: 1415257

Parameter	Units	60174186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	3.0	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

QC Batch: WETA/30413 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174187001

METHOD BLANK: 1417233 Matrix: Water
Associated Lab Samples: 60174187001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/30/14 09:05	

LABORATORY CONTROL SAMPLE: 1417234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.9	98	90-110	

MATRIX SPIKE SAMPLE: 1417235

Parameter	Units	60173877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66.8	50	117	100	90-110	

MATRIX SPIKE SAMPLE: 1417237

Parameter	Units	60174164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4000	2500	7710	148	90-110	M1

SAMPLE DUPLICATE: 1417236

Parameter	Units	60173953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	14300	14700	3	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-366
Pace Project No.: 60174187

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174187001	**316-366**	EPA 200.7	MPRP/28168	EPA 200.7	ICP/21309
60174187001	**316-366**	EPA 200.7	MPRP/28210	EPA 200.7	ICP/21308
60174187001	**316-366**	EPA 245.1	MERP/8622	EPA 245.1	MERC/8577
60174187001	**316-366**	EPA 245.1	MERP/8628	EPA 245.1	MERC/8583
60174187001	**316-366**	EPA 625	OEXT/45281	EPA 625	MSSV/14511
60174187001	**316-366**	EPA 624 Low	MSV/63163		
60174187002	**TRIP BLANK**	EPA 624 Low	MSV/63186		
60174187001	**316-366**	EPA 1664A	WET/49265		
60174187001	**316-366**	EPA 1664A	WET/49266		
60174187001	**316-366**	SM 2540D	WET/49200		
60174187001	**316-366**	SM 4500-H+B	WET/49250		
60174187001	**316-366**	SM 5210B	WET/49198	SM 5210B	WET/49320
60174187001	**316-366**	EPA 350.1	WETA/30358		
60174187001	**316-366**	EPA 410.4	WETA/30413		

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Sample Condition Upon Receipt

WO#: 60174187

60174187

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: 9.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 7/23/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5 mL of HNO3 to BP3N. pH 6.0/4.0 Added 2-0 mL of H2SO4 to BP3S. pH 5.0/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed pv / Lot # of added preservative 12513 12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Cover		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 (AFB) Date: 7/24/14

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.	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

60174187

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-3662AG4U 1BP3U 3AG3S	OT	G	7/21/14	1002	—	—		~~17~~ 15	10	4	1	0	1B	P3S 3.0				X	X	X	X	X	X	X	X	X	X	X	1B	P3N	4.0 2BP2U 5DG9U 001
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2DG9U 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	7-22-14	1:05	[signature]	7/22/14	1:05				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	7/23/14	0230	9.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/21/14

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

July 30, 2014

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

RE: Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 23, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

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
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174194001	**316-367**	Water	07/22/14 12:34	07/23/14 09:05
60174194002	**TRIP BLANK**	Water	07/22/14 12:34	07/23/14 09:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174194001	**316-367**	EPA 200.7	TDS	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174194002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Sample: 316-367 **Lab ID: 60174194001** Collected: 07/22/14 12:34 Received: 07/23/14 09:05 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	**10800**	ug/L	750	2	07/24/14 17:45	07/25/14 12:22	7429-90-5	
Antimony	ND	ug/L	250	5	07/24/14 17:45	07/25/14 12:50	7440-36-0	D3
Arsenic	**1090**	ug/L	250	5	07/24/14 17:45	07/25/14 12:50	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/24/14 17:45	07/25/14 12:20	7440-41-7	
Cadmium	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:50	7440-43-9	D3
Chromium	**245**	ug/L	25.0	1	07/24/14 17:45	07/25/14 12:20	7440-47-3	
Cobalt	ND	ug/L	125	5	07/24/14 17:45	07/25/14 12:50	7440-48-4	D3
Copper	ND	ug/L	50.0	1	07/24/14 17:45	07/25/14 12:20	7440-50-8	
Iron	**836000**	ug/L	250	1	07/24/14 17:45	07/25/14 12:20	7439-89-6	
Lead	**204**	ug/L	125	5	07/24/14 17:45	07/25/14 12:50	7439-92-1	
Nickel	**128**	ug/L	125	5	07/24/14 17:45	07/25/14 12:50	7440-02-0	
Selenium	ND	ug/L	375	5	07/24/14 17:45	07/25/14 12:50	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/24/14 17:45	07/25/14 12:20	7440-22-4	
Thallium	ND	ug/L	500	5	07/24/14 17:45	07/25/14 12:50	7440-28-0	D3
Zinc	**6010**	ug/L	1250	5	07/24/14 17:45	07/25/14 12:50	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2490**	ug/L	750	2	07/24/14 17:45	07/28/14 15:21	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/24/14 17:45	07/28/14 15:21	7440-36-0	D3
Arsenic, Dissolved	**886**	ug/L	50.0	1	07/24/14 17:45	07/28/14 15:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/24/14 17:45	07/28/14 15:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:17	7440-43-9	
Chromium, Dissolved	**130**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:17	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/24/14 17:45	07/28/14 15:17	7440-50-8	
Iron, Dissolved	**385000**	ug/L	250	1	07/24/14 17:45	07/28/14 15:17	7439-89-6	
Lead, Dissolved	**63.5**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:17	7439-92-1	
Nickel, Dissolved	**78.3**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/24/14 17:45	07/28/14 15:21	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/24/14 17:45	07/28/14 15:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/24/14 17:45	07/28/14 15:17	7440-28-0	
Zinc, Dissolved	**5560**	ug/L	500	2	07/24/14 17:45	07/28/14 15:21	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/24/14 08:30	07/24/14 14:10	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/25/14 08:30	07/25/14 13:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/25/14 00:00	07/27/14 14:26	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/25/14 00:00	07/27/14 14:26	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**9130**	ug/L	4000	2	07/25/14 00:00	07/27/14 14:26		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Sample: 316-367 **Lab ID: 60174194001** Collected: 07/22/14 12:34 Received: 07/23/14 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	87-86-5	
Phenol	**13800**	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 14:26	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	145	%	33-120	2	07/25/14 00:00	07/27/14 14:26	4165-60-0	S0
2-Fluorobiphenyl (S)	97	%	39-120	2	07/25/14 00:00	07/27/14 14:26	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	07/25/14 00:00	07/27/14 14:26	1718-51-0	
Phenol-d6 (S)	54	%	11-120	2	07/25/14 00:00	07/27/14 14:26	13127-88-3	
2-Fluorophenol (S)	59	%	17-120	2	07/25/14 00:00	07/27/14 14:26	367-12-4	
2,4,6-Tribromophenol (S)	105	%	39-120	2	07/25/14 00:00	07/27/14 14:26	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**82100**	ug/L	2000	200		07/23/14 20:57	67-64-1	N2
Benzene	ND	ug/L	200	200		07/23/14 20:57	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/23/14 20:57	75-27-4	
Bromoform	ND	ug/L	200	200		07/23/14 20:57	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/23/14 20:57	74-83-9	
2-Butanone (MEK)	**28300**	ug/L	2000	200		07/23/14 20:57	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/23/14 20:57	56-23-5	
Chloroethane	ND	ug/L	200	200		07/23/14 20:57	75-00-3	
Chloroform	ND	ug/L	200	200		07/23/14 20:57	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/23/14 20:57	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/23/14 20:57	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:57	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/23/14 20:57	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/23/14 20:57	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/23/14 20:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/23/14 20:57	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/23/14 20:57	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/23/14 20:57	127-18-4	
Toluene	ND	ug/L	200	200		07/23/14 20:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/23/14 20:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/23/14 20:57	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/23/14 20:57	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/23/14 20:57	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/23/14 20:57	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		07/23/14 20:57	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		07/23/14 20:57	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	200		07/23/14 20:57	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/23/14 20:57		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**970**	mg/L	5.0	1		07/28/14 08:50		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Sample: 316-367 **Lab ID: 60174194001** Collected: 07/22/14 12:34 Received: 07/23/14 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		07/28/14 08:57		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4860**	mg/L	5.0	1		07/25/14 15:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/25/14 11:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31500**	mg/L	2.0	1	07/23/14 16:42	07/28/14 10:41		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**645**	mg/L	20.0	200		07/24/14 11:51	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55600**	mg/L	5000	500		07/30/14 09:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

Sample: TRIP BLANK **Lab ID: 60174194002** Collected: 07/22/14 12:34 Received: 07/23/14 09:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/24/14 12:29	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/24/14 12:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/24/14 12:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/24/14 12:29	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 12:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 12:29	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/24/14 12:29	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/24/14 12:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/24/14 12:29	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/24/14 12:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/24/14 12:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 12:29	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 12:29	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/24/14 12:29	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/24/14 12:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 12:29	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/24/14 12:29	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/24/14 12:29	127-18-4	
Toluene	ND	ug/L	1.0	1		07/24/14 12:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/24/14 12:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/24/14 12:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/24/14 12:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/24/14 12:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/24/14 12:29	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		07/24/14 12:29	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/24/14 12:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		07/24/14 12:29	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/24/14 12:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MERP/8622
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174194001

METHOD BLANK: 1415183 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/24/14 13:57	

LABORATORY CONTROL SAMPLE: 1415184

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: 1415185 1415186

Parameter	Units	60173802002 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	5.6	5.3	111	106	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MERP/8628
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174194001

METHOD BLANK: 1415981 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/25/14 13:30	

LABORATORY CONTROL SAMPLE: 1415982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415983 1415984

Parameter	Units	60174187001 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	139	146	92	97	70-130	5	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MPRP/28168
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174194001

METHOD BLANK: 1414621
Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/25/14 11:41	
Antimony	ug/L	ND	10.0	07/25/14 11:41	
Arsenic	ug/L	ND	10.0	07/25/14 11:41	
Beryllium	ug/L	ND	1.0	07/25/14 11:41	
Cadmium	ug/L	ND	5.0	07/25/14 11:41	
Chromium	ug/L	ND	5.0	07/25/14 11:41	
Cobalt	ug/L	ND	5.0	07/25/14 11:41	
Copper	ug/L	ND	10.0	07/25/14 11:41	
Iron	ug/L	ND	50.0	07/25/14 11:41	
Lead	ug/L	ND	5.0	07/25/14 11:41	
Nickel	ug/L	ND	5.0	07/25/14 11:41	
Selenium	ug/L	ND	15.0	07/25/14 11:41	
Silver	ug/L	ND	7.0	07/25/14 11:41	
Thallium	ug/L	ND	20.0	07/25/14 11:41	
Zinc	ug/L	ND	50.0	07/25/14 11:41	

LABORATORY CONTROL SAMPLE: 1414622

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	991	99	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	960	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	9690	97	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	514	103	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	942	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1414623 1414624

Parameter	Units	60173965001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8980	50000	50000	65000	65400	112	113	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5670	5670	113	113	70-130	0	7	
Arsenic	ug/L	1250	5000	5000	6570	6680	106	108	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4780	4720	96	94	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5310	5280	106	105	70-130	1	10	
Chromium	ug/L	245	5000	5000	4790	4680	91	89	70-130	2	10	
Cobalt	ug/L	ND	5000	5000	4980	4930	99	98	70-130	1	6	
Copper	ug/L	67.0	5000	5000	5790	5900	114	117	70-130	2	11	
Iron	ug/L	863000	50000	50000	802000	844000	-121	-39	70-130	5	10	M1
Lead	ug/L	138	5000	5000	4800	4790	93	93	70-130	0	10	
Nickel	ug/L	124	5000	5000	5070	5050	99	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5820	5760	116	115	70-130	1	10	
Silver	ug/L	ND	2500	2500	2710	2700	108	107	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4510	4460	90	89	70-130	1	6	
Zinc	ug/L	5520	5000	5000	9260	9700	75	84	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MPRP/28210
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174194001

METHOD BLANK: 1415813
Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/28/14 14:45	
Antimony, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Arsenic, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Beryllium, Dissolved	ug/L	ND	1.0	07/28/14 14:45	
Cadmium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Chromium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Cobalt, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Copper, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Iron, Dissolved	ug/L	ND	50.0	07/28/14 14:45	
Lead, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Nickel, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Selenium, Dissolved	ug/L	ND	15.0	07/28/14 14:45	
Silver, Dissolved	ug/L	ND	7.0	07/28/14 14:45	
Thallium, Dissolved	ug/L	ND	20.0	07/28/14 14:45	
Zinc, Dissolved	ug/L	ND	50.0	07/28/14 14:45	

LABORATORY CONTROL SAMPLE: 1415814

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	962	96	85-115	
Beryllium, Dissolved	ug/L	1000	982	98	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	998	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	992	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	961	96	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	971	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415815 1415816

Parameter	Units	60174187001 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	2300	50000	50000	51000	52100	97	100	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5370	105	107	70-130	2	7	
Arsenic, Dissolved	ug/L	796	5000	5000	6200	6260	108	109	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4650	4690	93	94	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5280	104	106	70-130	1	10	
Chromium, Dissolved	ug/L	118	5000	5000	4990	5000	97	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5100	5140	101	102	70-130	1	11	
Iron, Dissolved	ug/L	355000	50000	50000	405000	403000	100	96	70-130	0	10	
Lead, Dissolved	ug/L	57.7	5000	5000	4690	4660	93	92	70-130	0	10	
Nickel, Dissolved	ug/L	70.4	5000	5000	4820	4880	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5400	5500	108	110	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2720	109	109	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4350	4390	87	88	70-130	1	6	
Zinc, Dissolved	ug/L	4830	5000	5000	9620	9800	96	99	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MSV/63163
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174194001

METHOD BLANK: 1414971
Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/23/14 17:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/23/14 17:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/23/14 17:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/23/14 17:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/23/14 17:04	N2
Acetone	ug/L	ND	10.0	07/23/14 17:04	N2
Benzene	ug/L	ND	1.0	07/23/14 17:04	
Bromodichloromethane	ug/L	ND	1.0	07/23/14 17:04	
Bromoform	ug/L	ND	1.0	07/23/14 17:04	
Bromomethane	ug/L	ND	5.0	07/23/14 17:04	
Carbon tetrachloride	ug/L	ND	1.0	07/23/14 17:04	
Chloroethane	ug/L	ND	1.0	07/23/14 17:04	
Chloroform	ug/L	ND	1.0	07/23/14 17:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	N2
Ethylbenzene	ug/L	ND	1.0	07/23/14 17:04	
Methylene chloride	ug/L	ND	1.0	07/23/14 17:04	
Tetrachloroethene	ug/L	ND	1.0	07/23/14 17:04	
Toluene	ug/L	ND	1.0	07/23/14 17:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Trichloroethene	ug/L	ND	1.0	07/23/14 17:04	
Vinyl chloride	ug/L	ND	1.0	07/23/14 17:04	
Xylene (Total)	ug/L	ND	3.0	07/23/14 17:04	N2
1,2-Dichloroethane-d4 (S)	%	96	80-120	07/23/14 17:04	
4-Bromofluorobenzene (S)	%	98	80-120	07/23/14 17:04	
Toluene-d8 (S)	%	99	80-120	07/23/14 17:04	

LABORATORY CONTROL SAMPLE: 1414972

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	20.0	100	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	105	67-124	
1,2-Dichloroethane	ug/L	20	19.5	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	95	74-120	
2-Butanone (MEK)	ug/L	100	88.5	89	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.0	98	59-131	N2
Acetone	ug/L	100	87.4	87	38-134	N2
Benzene	ug/L	20	19.1	95	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

LABORATORY CONTROL SAMPLE: 1414972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.5	98	68-125	
Bromoform	ug/L	20	19.5	98	65-127	
Bromomethane	ug/L	20	23.1	116	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	20.5	102	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.3	96	68-127	N2
Ethylbenzene	ug/L	20	19.7	98	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.1	95	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	20.3	101	43-129	
Xylene (Total)	ug/L	60	59.8	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3920	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3710	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3740	93	33-140	
2-Butanone (MEK)	ug/L	30300	20000	44700	72	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18000	89	40-160	N2
Acetone	ug/L	85500	20000	94600	46	10-160	N2
Benzene	ug/L	ND	4000	3600	90	37-151	
Bromodichloromethane	ug/L	ND	4000	3660	91	35-142	
Bromoform	ug/L	ND	4000	3700	92	45-142	
Bromomethane	ug/L	ND	4000	4350	109	10-158	
Carbon tetrachloride	ug/L	ND	4000	3990	100	70-140	
Chloroethane	ug/L	ND	4000	3950	99	19-152	
Chloroform	ug/L	ND	4000	3670	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3800	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3900	97	40-142	
Methylene chloride	ug/L	ND	4000	3340	80	31-144	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3500	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3790	95	54-151	
Trichloroethene	ug/L	ND	4000	3700	92	71-149	
Vinyl chloride	ug/L	ND	4000	4190	105	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

MATRIX SPIKE SAMPLE: 1414973

Parameter	Units	60174039001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: MSV/63186
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174194002

METHOD BLANK: 1415373
Matrix: Water
Associated Lab Samples: 60174194002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/24/14 11:43	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,2-Dichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:43	
2-Butanone (MEK)	ug/L	ND	10.0	07/24/14 11:43	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/24/14 11:43	N2
Acetone	ug/L	ND	10.0	07/24/14 11:43	N2
Benzene	ug/L	ND	1.0	07/24/14 11:43	
Bromodichloromethane	ug/L	ND	1.0	07/24/14 11:43	
Bromoform	ug/L	ND	1.0	07/24/14 11:43	
Bromomethane	ug/L	ND	5.0	07/24/14 11:43	
Carbon tetrachloride	ug/L	ND	1.0	07/24/14 11:43	
Chloroethane	ug/L	ND	1.0	07/24/14 11:43	
Chloroform	ug/L	ND	1.0	07/24/14 11:43	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	N2
Ethylbenzene	ug/L	ND	1.0	07/24/14 11:43	
Methylene chloride	ug/L	ND	1.0	07/24/14 11:43	
Tetrachloroethene	ug/L	ND	1.0	07/24/14 11:43	
Toluene	ug/L	ND	1.0	07/24/14 11:43	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Trichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Vinyl chloride	ug/L	ND	1.0	07/24/14 11:43	
Xylene (Total)	ug/L	ND	3.0	07/24/14 11:43	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	07/24/14 11:43	
4-Bromofluorobenzene (S)	%	100	80-120	07/24/14 11:43	
Toluene-d8 (S)	%	103	80-120	07/24/14 11:43	

LABORATORY CONTROL SAMPLE: 1415374

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	21.6	108	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	104	67-124	
1,2-Dichloroethane	ug/L	20	19.8	99	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	95.3	95	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	99.4	99	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

LABORATORY CONTROL SAMPLE: 1415374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.4	102	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	21.9	110	13-157	
Carbon tetrachloride	ug/L	20	19.3	97	70-131	
Chloroethane	ug/L	20	19.6	98	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.5	97	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.9	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	96	66-129	
Trichloroethene	ug/L	20	18.8	94	71-123	
Vinyl chloride	ug/L	20	19.6	98	43-129	
Xylene (Total)	ug/L	60	59.6	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	100	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4200	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3980	100	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3670	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	94	33-140	
2-Butanone (MEK)	ug/L	31000	20000	50500	97	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21100	104	40-160	N2
Acetone	ug/L	87400	20000	109000	109	10-160	N2
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	97	35-142	
Bromoform	ug/L	ND	4000	3890	97	45-142	
Bromomethane	ug/L	ND	4000	4400	110	10-158	
Carbon tetrachloride	ug/L	ND	4000	4060	102	70-140	
Chloroethane	ug/L	ND	4000	3990	100	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	3340	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3930	98	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-151	
Trichloroethene	ug/L	ND	4000	3800	95	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: OEXT/45281
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174194001

METHOD BLANK: 1415933
Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/27/14 13:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/27/14 13:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/27/14 13:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/27/14 13:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachloroethane	ug/L	ND	5.0	07/27/14 13:03	
Naphthalene	ug/L	ND	5.0	07/27/14 13:03	
Nitrobenzene	ug/L	ND	5.0	07/27/14 13:03	
Pentachlorophenol	ug/L	ND	5.0	07/27/14 13:03	
Phenol	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Tribromophenol (S)	%	84	39-120	07/27/14 13:03	
2-Fluorobiphenyl (S)	%	91	39-120	07/27/14 13:03	
2-Fluorophenol (S)	%	52	17-120	07/27/14 13:03	
Nitrobenzene-d5 (S)	%	94	33-120	07/27/14 13:03	
Phenol-d6 (S)	%	36	11-120	07/27/14 13:03	
Terphenyl-d14 (S)	%	91	45-120	07/27/14 13:03	

LABORATORY CONTROL SAMPLE: 1415934

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	38.7	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.3	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.2	66	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.7	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.4	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.3	64	24-120	
Hexachloroethane	ug/L	50	37.8	76	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.1	82	48-120	
Pentachlorophenol	ug/L	50	30.0	60	47-120	
Phenol	ug/L	50	19.7	39	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

MATRIX SPIKE SAMPLE: 1415935

Parameter	Units	60174010002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.78	53.2	42.5	80	44-120	
2,4,6-Trichlorophenol	ug/L	<1.6	53.2	40.7	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	<0.94	53.2	29.4	55	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	<0.83	53.2	29.6	56	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	<0.76	53.2	44.6	84	10-160	
Hexachloro-1,3-butadiene	ug/L	<1.0	53.2	40.5	76	39-116	
Hexachlorocyclopentadiene	ug/L	<2.3	106	72.0	68	11-120	
Hexachloroethane	ug/L	<0.66	53.2	40.8	77	40-113	
Naphthalene	ug/L	<0.62	53.2	41.9	79	45-120	
Nitrobenzene	ug/L	<0.69	53.2	53.2	100	38-120	
Pentachlorophenol	ug/L	<1.8	53.2	41.9	79	43-135	
Phenol	ug/L	<0.54	53.2	18.1	34	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				82	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				80	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WET/49265
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174194001

METHOD BLANK: 1416859 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/28/14 08:49	

LABORATORY CONTROL SAMPLE: 1416860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.9	87	78-114	

MATRIX SPIKE SAMPLE: 1416861

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	7.3	40.4	43.1	89	78-114	

SAMPLE DUPLICATE: 1416862

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	996	849	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WET/49266 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174194001

METHOD BLANK: 1416863 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/28/14 08:56	

LABORATORY CONTROL SAMPLE: 1416864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.5	118	64-132	

MATRIX SPIKE SAMPLE: 1416865

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	14.9	62	64-132	M1

SAMPLE DUPLICATE: 1416866

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.0	11.2	15	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WET/49217 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174194001

METHOD BLANK: 1415223 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/25/14 15:57	

SAMPLE DUPLICATE: 1415224

Parameter	Units	60174190001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	23.0	24.0	4	10	

SAMPLE DUPLICATE: 1415225

Parameter	Units	60174186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	10	9.0	11	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WET/49250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174194001

SAMPLE DUPLICATE: 1416165

Parameter	Units	60174187001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.3	5.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WET/49210
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174194001

METHOD BLANK: 1415014 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/28/14 10:27	

LABORATORY CONTROL SAMPLE: 1415015

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	209	105	85-115	

SAMPLE DUPLICATE: 1415016

Parameter	Units	60174219001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	840	732	14	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WETA/30358 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174194001

METHOD BLANK: 1415253 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/24/14 11:36	

LABORATORY CONTROL SAMPLE: 1415254

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

MATRIX SPIKE SAMPLE: 1415255

Parameter	Units	60174165003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	112	90-110	M1

MATRIX SPIKE SAMPLE: 1415256

Parameter	Units	60174165006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	117	90-110	M1

SAMPLE DUPLICATE: 1415257

Parameter	Units	60174186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	3.0	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

QC Batch: WETA/30413 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174194001

METHOD BLANK: 1417233 Matrix: Water
Associated Lab Samples: 60174194001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/30/14 09:05	

LABORATORY CONTROL SAMPLE: 1417234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.9	98	90-110	

MATRIX SPIKE SAMPLE: 1417235

Parameter	Units	60173877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66.8	50	117	100	90-110	

MATRIX SPIKE SAMPLE: 1417237

Parameter	Units	60174164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4000	2500	7710	148	90-110	M1

SAMPLE DUPLICATE: 1417236

Parameter	Units	60173953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	14300	14700	3	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LANDFILL
Pace Project No.: 60174194

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
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 LANDFILL
Pace Project No.: 60174194

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174194001	**316-367**	EPA 200.7	MPRP/28168	EPA 200.7	ICP/21309
60174194001	**316-367**	EPA 200.7	MPRP/28210	EPA 200.7	ICP/21308
60174194001	**316-367**	EPA 245.1	MERP/8622	EPA 245.1	MERC/8577
60174194001	**316-367**	EPA 245.1	MERP/8628	EPA 245.1	MERC/8583
60174194001	**316-367**	EPA 625	OEXT/45281	EPA 625	MSSV/14511
60174194001	**316-367**	EPA 624 Low	MSV/63163		
60174194002	**TRIP BLANK**	EPA 624 Low	MSV/63186		
60174194001	**316-367**	EPA 1664A	WET/49265		
60174194001	**316-367**	EPA 1664A	WET/49266		
60174194001	**316-367**	SM 2540D	WET/49217		
60174194001	**316-367**	SM 4500-H+B	WET/49250		
60174194001	**316-367**	SM 5210B	WET/49210	SM 5210B	WET/49304
60174194001	**316-367**	EPA 350.1	WETA/30358		
60174194001	**316-367**	EPA 410.4	WETA/30413		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60174194

60174194

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ 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: 7.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 7/28

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH, BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N initial pH 4.5 added 2.5mL HNO3 - final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	BP3S initial pH 4.0 added 2mL H2SO4 - final pH 3.5
		14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: Att / Lot # of added preservative: 12513-#3-3-2, 12514-2-5
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): COVERED		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AEB Date: 7/28/14

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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.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174194
1	2(BP2U) 1(BP3U) 316-367 1(BP3S) 1(BP3N) 4.0/3.5 4.5/4.0	OT	G	7/22/14	1234	—	—		~~14~~ 15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			3(AG3S) 5(DG9U) 2(AG4U) 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			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FSI	7-22-14	1:00	[signature]	7/22/14	1:05				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	7/23	8:30	7.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/22/14

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

July 31, 2014

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

RE: Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174295001	**316-368**	Water	07/23/14 09:00	07/24/14 01:15
60174295002	**TRIP BLANK**	Water	07/23/14 09:00	07/24/14 01:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174295001	**316-368**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174295002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Sample: 316-368 **Lab ID: 60174295001** Collected: 07/23/14 09:00 Received: 07/24/14 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	**8830**	ug/L	750	2	07/28/14 12:15	07/29/14 16:40	7429-90-5	
Antimony	ND	ug/L	100	2	07/28/14 12:15	07/29/14 16:40	7440-36-0	D3
Arsenic	**983**	ug/L	50.0	1	07/28/14 12:15	07/29/14 16:36	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/28/14 12:15	07/29/14 16:36	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:36	7440-43-9	
Chromium	**193**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:36	7440-47-3	
Cobalt	**34.4**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:36	7440-48-4	R1
Copper	ND	ug/L	50.0	1	07/28/14 12:15	07/29/14 16:36	7440-50-8	
Iron	**769000**	ug/L	250	1	07/28/14 12:15	07/29/14 16:36	7439-89-6	M1
Lead	**144**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:36	7439-92-1	
Nickel	**97.4**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:36	7440-02-0	
Selenium	ND	ug/L	150	2	07/28/14 12:15	07/29/14 16:40	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/28/14 12:15	07/29/14 16:36	7440-22-4	
Thallium	ND	ug/L	100	1	07/28/14 12:15	07/29/14 16:36	7440-28-0	R1
Zinc	**5960**	ug/L	500	2	07/28/14 12:15	07/29/14 16:40	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2280**	ug/L	750	2	07/24/14 17:45	07/28/14 15:29	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/24/14 17:45	07/28/14 15:29	7440-36-0	D3
Arsenic, Dissolved	**809**	ug/L	50.0	1	07/24/14 17:45	07/28/14 15:25	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/24/14 17:45	07/28/14 15:25	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:25	7440-43-9	
Chromium, Dissolved	**122**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:25	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:25	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/24/14 17:45	07/28/14 15:25	7440-50-8	
Iron, Dissolved	**352000**	ug/L	250	1	07/24/14 17:45	07/28/14 15:25	7439-89-6	
Lead, Dissolved	**64.8**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:25	7439-92-1	
Nickel, Dissolved	**76.1**	ug/L	25.0	1	07/24/14 17:45	07/28/14 15:25	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/24/14 17:45	07/28/14 15:29	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/24/14 17:45	07/28/14 15:25	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/24/14 17:45	07/28/14 15:25	7440-28-0	
Zinc, Dissolved	**5130**	ug/L	500	2	07/24/14 17:45	07/28/14 15:29	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	07/25/14 08:30	07/25/14 13:50	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/25/14 08:30	07/25/14 13:43	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/25/14 00:00	07/27/14 16:51	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/25/14 00:00	07/27/14 16:51	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7950**	ug/L	4000	2	07/25/14 00:00	07/27/14 16:51		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Sample: 316-368 **Lab ID: 60174295001** Collected: 07/23/14 09:00 Received: 07/24/14 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	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	87-86-5	
Phenol	**11800**	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/25/14 00:00	07/27/14 16:51	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	142	%	33-120	2	07/25/14 00:00	07/27/14 16:51	4165-60-0	S0
2-Fluorobiphenyl (S)	98	%	39-120	2	07/25/14 00:00	07/27/14 16:51	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	07/25/14 00:00	07/27/14 16:51	1718-51-0	
Phenol-d6 (S)	52	%	11-120	2	07/25/14 00:00	07/27/14 16:51	13127-88-3	
2-Fluorophenol (S)	57	%	17-120	2	07/25/14 00:00	07/27/14 16:51	367-12-4	
2,4,6-Tribromophenol (S)	102	%	39-120	2	07/25/14 00:00	07/27/14 16:51	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**87400**	ug/L	2000	200		07/24/14 12:45	67-64-1	N2
Benzene	ND	ug/L	200	200		07/24/14 12:45	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/24/14 12:45	75-27-4	
Bromoform	ND	ug/L	200	200		07/24/14 12:45	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/24/14 12:45	74-83-9	
2-Butanone (MEK)	**31000**	ug/L	2000	200		07/24/14 12:45	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/24/14 12:45	56-23-5	
Chloroethane	ND	ug/L	200	200		07/24/14 12:45	75-00-3	
Chloroform	ND	ug/L	200	200		07/24/14 12:45	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/24/14 12:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/24/14 12:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/24/14 12:45	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/24/14 12:45	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/24/14 12:45	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/24/14 12:45	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/24/14 12:45	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/24/14 12:45	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/24/14 12:45	127-18-4	
Toluene	ND	ug/L	200	200		07/24/14 12:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/24/14 12:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/24/14 12:45	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/24/14 12:45	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/24/14 12:45	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/24/14 12:45	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		07/24/14 12:45	460-00-4	
Toluene-d8 (S)	95	%	80-120	200		07/24/14 12:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		07/24/14 12:45	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/24/14 12:45		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**996**	mg/L	5.0	1		07/28/14 08:51		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Sample: 316-368 **Lab ID: 60174295001** Collected: 07/23/14 09:00 Received: 07/24/14 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	**13.0**	mg/L	5.0	1		07/28/14 08:59		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4460**	mg/L	5.0	1		07/25/14 10:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		07/28/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28800**	mg/L	2.0	1	07/24/14 15:52	07/29/14 11:30		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**635**	mg/L	20.0	200		07/24/14 12:05	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**58400**	mg/L	5000	500		07/30/14 09:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Sample: TRIP BLANK **Lab ID: 60174295002** Collected: 07/23/14 09:00 Received: 07/24/14 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		07/24/14 13:16	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/24/14 13:16	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/24/14 13:16	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/24/14 13:16	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/24/14 13:16	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/24/14 13:16	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/24/14 13:16	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/24/14 13:16	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/24/14 13:16	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/24/14 13:16	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/24/14 13:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 13:16	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/24/14 13:16	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/24/14 13:16	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/24/14 13:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/24/14 13:16	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/24/14 13:16	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/24/14 13:16	127-18-4	
Toluene	ND	ug/L	1.0	1		07/24/14 13:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/24/14 13:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/24/14 13:16	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/24/14 13:16	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/24/14 13:16	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/24/14 13:16	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		07/24/14 13:16	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/24/14 13:16	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		07/24/14 13:16	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/24/14 13:16		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: MERP/8629
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174295001

METHOD BLANK: 1415985 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/25/14 13:45	

LABORATORY CONTROL SAMPLE: 1415986

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415987 1415988

Parameter	Units	60174295001 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	153	147	102	98	70-130	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: MERP/8628
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174295001

METHOD BLANK: 1415981 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/25/14 13:30	

LABORATORY CONTROL SAMPLE: 1415982

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415983 1415984

Parameter	Units	60174187001 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	139	146	92	97	70-130	5	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: MPRP/28227
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174295001

METHOD BLANK: 1416462
Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/29/14 16:30	
Antimony	ug/L	ND	10.0	07/29/14 16:30	
Arsenic	ug/L	ND	10.0	07/29/14 16:30	
Beryllium	ug/L	ND	1.0	07/29/14 16:30	
Cadmium	ug/L	ND	5.0	07/29/14 16:30	
Chromium	ug/L	ND	5.0	07/29/14 16:30	
Cobalt	ug/L	ND	5.0	07/29/14 16:30	
Copper	ug/L	ND	10.0	07/29/14 16:30	
Iron	ug/L	ND	50.0	07/29/14 16:30	
Lead	ug/L	ND	5.0	07/29/14 16:30	
Nickel	ug/L	ND	5.0	07/29/14 16:30	
Selenium	ug/L	ND	15.0	07/29/14 16:30	
Silver	ug/L	ND	7.0	07/29/14 16:30	
Thallium	ug/L	ND	20.0	07/29/14 16:30	
Zinc	ug/L	ND	50.0	07/29/14 16:30	

LABORATORY CONTROL SAMPLE: 1416463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	970	97	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	997	100	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	985	99	85-115	
Silver	ug/L	500	498	100	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1416464 1416465

Parameter	Units	60174295001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8830	50000	50000	66400	67100	115	117	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5350	5390	106	107	70-130	1	7	
Arsenic	ug/L	983	5000	5000	6070	6600	102	112	70-130	8	10	
Beryllium	ug/L	ND	5000	5000	4830	4840	97	97	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	4970	5340	99	107	70-130	7	10	
Chromium	ug/L	193	5000	5000	5220	5260	100	101	70-130	1	10	
Cobalt	ug/L	34.4	5000	5000	4580	4890	91	97	70-130	7	6	R1
Copper	ug/L	ND	5000	5000	5300	5340	106	106	70-130	1	11	
Iron	ug/L	769000	50000	50000	822000	858000	107	177	70-130	4	10	M1
Lead	ug/L	144	5000	5000	4410	4700	85	91	70-130	6	10	
Nickel	ug/L	97.4	5000	5000	4610	4930	90	97	70-130	7	10	
Selenium	ug/L	ND	5000	5000	5560	5710	111	114	70-130	3	10	
Silver	ug/L	ND	2500	2500	2710	2720	108	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4060	4340	81	87	70-130	7	6	R1
Zinc	ug/L	5960	5000	5000	10700	11100	94	103	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: MPRP/28210
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174295001

METHOD BLANK: 1415813
Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/28/14 14:45	
Antimony, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Arsenic, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Beryllium, Dissolved	ug/L	ND	1.0	07/28/14 14:45	
Cadmium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Chromium, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Cobalt, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Copper, Dissolved	ug/L	ND	10.0	07/28/14 14:45	
Iron, Dissolved	ug/L	ND	50.0	07/28/14 14:45	
Lead, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Nickel, Dissolved	ug/L	ND	5.0	07/28/14 14:45	
Selenium, Dissolved	ug/L	ND	15.0	07/28/14 14:45	
Silver, Dissolved	ug/L	ND	7.0	07/28/14 14:45	
Thallium, Dissolved	ug/L	ND	20.0	07/28/14 14:45	
Zinc, Dissolved	ug/L	ND	50.0	07/28/14 14:45	

LABORATORY CONTROL SAMPLE: 1415814

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	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	962	96	85-115	
Beryllium, Dissolved	ug/L	1000	982	98	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	998	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	992	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	961	96	85-115	
Silver, Dissolved	ug/L	500	503	101	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	971	97	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1415815 1415816

Parameter	Units	60174187001 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	2300	50000	50000	51000	52100	97	100	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5370	105	107	70-130	2	7	
Arsenic, Dissolved	ug/L	796	5000	5000	6200	6260	108	109	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4650	4690	93	94	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5280	104	106	70-130	1	10	
Chromium, Dissolved	ug/L	118	5000	5000	4990	5000	97	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4880	4900	97	98	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5100	5140	101	102	70-130	1	11	
Iron, Dissolved	ug/L	355000	50000	50000	405000	403000	100	96	70-130	0	10	
Lead, Dissolved	ug/L	57.7	5000	5000	4690	4660	93	92	70-130	0	10	
Nickel, Dissolved	ug/L	70.4	5000	5000	4820	4880	95	96	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5400	5500	108	110	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2730	2720	109	109	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4350	4390	87	88	70-130	1	6	
Zinc, Dissolved	ug/L	4830	5000	5000	9620	9800	96	99	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: MSV/63186
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174295001, 60174295002

METHOD BLANK: 1415373
Matrix: Water
Associated Lab Samples: 60174295001, 60174295002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/24/14 11:43	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,2-Dichloroethane	ug/L	ND	1.0	07/24/14 11:43	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/24/14 11:43	
2-Butanone (MEK)	ug/L	ND	10.0	07/24/14 11:43	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/24/14 11:43	N2
Acetone	ug/L	ND	10.0	07/24/14 11:43	N2
Benzene	ug/L	ND	1.0	07/24/14 11:43	
Bromodichloromethane	ug/L	ND	1.0	07/24/14 11:43	
Bromoform	ug/L	ND	1.0	07/24/14 11:43	
Bromomethane	ug/L	ND	5.0	07/24/14 11:43	
Carbon tetrachloride	ug/L	ND	1.0	07/24/14 11:43	
Chloroethane	ug/L	ND	1.0	07/24/14 11:43	
Chloroform	ug/L	ND	1.0	07/24/14 11:43	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	N2
Ethylbenzene	ug/L	ND	1.0	07/24/14 11:43	
Methylene chloride	ug/L	ND	1.0	07/24/14 11:43	
Tetrachloroethene	ug/L	ND	1.0	07/24/14 11:43	
Toluene	ug/L	ND	1.0	07/24/14 11:43	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Trichloroethene	ug/L	ND	1.0	07/24/14 11:43	
Vinyl chloride	ug/L	ND	1.0	07/24/14 11:43	
Xylene (Total)	ug/L	ND	3.0	07/24/14 11:43	N2
1,2-Dichloroethane-d4 (S)	%	105	80-120	07/24/14 11:43	
4-Bromofluorobenzene (S)	%	100	80-120	07/24/14 11:43	
Toluene-d8 (S)	%	103	80-120	07/24/14 11:43	

LABORATORY CONTROL SAMPLE: 1415374

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	21.6	108	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.9	104	67-124	
1,2-Dichloroethane	ug/L	20	19.8	99	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	95.3	95	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	99.4	99	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

LABORATORY CONTROL SAMPLE: 1415374

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.4	102	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	21.9	110	13-157	
Carbon tetrachloride	ug/L	20	19.3	97	70-131	
Chloroethane	ug/L	20	19.6	98	47-133	
Chloroform	ug/L	20	19.5	97	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.5	97	74-122	
Methylene chloride	ug/L	20	16.9	85	64-129	
Tetrachloroethene	ug/L	20	19.5	98	73-125	
Toluene	ug/L	20	18.9	95	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	96	66-129	
Trichloroethene	ug/L	20	18.8	94	71-123	
Vinyl chloride	ug/L	20	19.6	98	43-129	
Xylene (Total)	ug/L	60	59.6	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	100	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4200	105	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3980	100	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3670	92	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	94	33-140	
2-Butanone (MEK)	ug/L	31000	20000	50500	97	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	21100	104	40-160	N2
Acetone	ug/L	87400	20000	109000	109	10-160	N2
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	97	35-142	
Bromoform	ug/L	ND	4000	3890	97	45-142	
Bromomethane	ug/L	ND	4000	4400	110	10-158	
Carbon tetrachloride	ug/L	ND	4000	4060	102	70-140	
Chloroethane	ug/L	ND	4000	3990	100	19-152	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	3340	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3930	98	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-151	
Trichloroethene	ug/L	ND	4000	3800	95	71-149	
Vinyl chloride	ug/L	ND	4000	4150	104	22-146	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

MATRIX SPIKE SAMPLE: 1415375

Parameter	Units	60174295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12000	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: OEXT/45281
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174295001

METHOD BLANK: 1415933
Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/27/14 13:03	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/27/14 13:03	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/27/14 13:03	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/27/14 13:03	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/27/14 13:03	
Hexachloroethane	ug/L	ND	5.0	07/27/14 13:03	
Naphthalene	ug/L	ND	5.0	07/27/14 13:03	
Nitrobenzene	ug/L	ND	5.0	07/27/14 13:03	
Pentachlorophenol	ug/L	ND	5.0	07/27/14 13:03	
Phenol	ug/L	ND	5.0	07/27/14 13:03	
2,4,6-Tribromophenol (S)	%	84	39-120	07/27/14 13:03	
2-Fluorobiphenyl (S)	%	91	39-120	07/27/14 13:03	
2-Fluorophenol (S)	%	52	17-120	07/27/14 13:03	
Nitrobenzene-d5 (S)	%	94	33-120	07/27/14 13:03	
Phenol-d6 (S)	%	36	11-120	07/27/14 13:03	
Terphenyl-d14 (S)	%	91	45-120	07/27/14 13:03	

LABORATORY CONTROL SAMPLE: 1415934

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	38.7	77	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.3	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.2	66	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	43.7	87	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.4	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	64.3	64	24-120	
Hexachloroethane	ug/L	50	37.8	76	43-113	
Naphthalene	ug/L	50	40.2	80	48-120	
Nitrobenzene	ug/L	50	41.1	82	48-120	
Pentachlorophenol	ug/L	50	30.0	60	47-120	
Phenol	ug/L	50	19.7	39	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

MATRIX SPIKE SAMPLE: 1415935

Parameter	Units	60174010002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.78	53.2	42.5	80	44-120	
2,4,6-Trichlorophenol	ug/L	<1.6	53.2	40.7	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	<0.94	53.2	29.4	55	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	<0.83	53.2	29.6	56	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	<0.76	53.2	44.6	84	10-160	
Hexachloro-1,3-butadiene	ug/L	<1.0	53.2	40.5	76	39-116	
Hexachlorocyclopentadiene	ug/L	<2.3	106	72.0	68	11-120	
Hexachloroethane	ug/L	<0.66	53.2	40.8	77	40-113	
Naphthalene	ug/L	<0.62	53.2	41.9	79	45-120	
Nitrobenzene	ug/L	<0.69	53.2	53.2	100	38-120	
Pentachlorophenol	ug/L	<1.8	53.2	41.9	79	43-135	
Phenol	ug/L	<0.54	53.2	18.1	34	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				82	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				80	33-120	
Phenol-d6 (S)	%				31	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WET/49265
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174295001

METHOD BLANK: 1416859 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/28/14 08:49	

LABORATORY CONTROL SAMPLE: 1416860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.9	87	78-114	

MATRIX SPIKE SAMPLE: 1416861

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	7.3	40.4	43.1	89	78-114	

SAMPLE DUPLICATE: 1416862

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	996	849	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WET/49266 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174295001

METHOD BLANK: 1416863 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/28/14 08:56	

LABORATORY CONTROL SAMPLE: 1416864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.5	118	64-132	

MATRIX SPIKE SAMPLE: 1416865

Parameter	Units	60173865001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	14.9	62	64-132	M1

SAMPLE DUPLICATE: 1416866

Parameter	Units	60174295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.0	11.2	15	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WET/49246
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174295001

METHOD BLANK: 1416004 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/25/14 10:46	

SAMPLE DUPLICATE: 1416005

Parameter	Units	60174291001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	85.0	99.0	15	10	D6

SAMPLE DUPLICATE: 1416006

Parameter	Units	60174309001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	235	250	6	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WET/49269
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174295001

SAMPLE DUPLICATE: 1416896

Parameter	Units	60174402006 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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WET/49231
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174295001

METHOD BLANK: 1415665 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/29/14 11:18	

LABORATORY CONTROL SAMPLE: 1415666

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	85-115	

SAMPLE DUPLICATE: 1415667

Parameter	Units	60174308001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	946	976	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WETA/30358 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174295001

METHOD BLANK: 1415253 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/24/14 11:36	

LABORATORY CONTROL SAMPLE: 1415254

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

MATRIX SPIKE SAMPLE: 1415255

Parameter	Units	60174165003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	112	90-110	M1

MATRIX SPIKE SAMPLE: 1415256

Parameter	Units	60174165006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	117	90-110	M1

SAMPLE DUPLICATE: 1415257

Parameter	Units	60174186001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	3.0	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

QC Batch: WETA/30413 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174295001

METHOD BLANK: 1417233 Matrix: Water
Associated Lab Samples: 60174295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/30/14 09:05	

LABORATORY CONTROL SAMPLE: 1417234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.9	98	90-110	

MATRIX SPIKE SAMPLE: 1417235

Parameter	Units	60173877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66.8	50	117	100	90-110	

MATRIX SPIKE SAMPLE: 1417237

Parameter	Units	60174164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4000	2500	7710	148	90-110	M1

SAMPLE DUPLICATE: 1417236

Parameter	Units	60173953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	14300	14700	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.

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

Project: BRIDGETON LF 316-368
Pace Project No.: 60174295

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174295001	**316-368**	EPA 200.7	MPRP/28227	EPA 200.7	ICP/21335
60174295001	**316-368**	EPA 200.7	MPRP/28210	EPA 200.7	ICP/21308
60174295001	**316-368**	EPA 245.1	MERP/8629	EPA 245.1	MERC/8584
60174295001	**316-368**	EPA 245.1	MERP/8628	EPA 245.1	MERC/8583
60174295001	**316-368**	EPA 625	OEXT/45281	EPA 625	MSSV/14511
60174295001	**316-368**	EPA 624 Low	MSV/63186		
60174295002	**TRIP BLANK**	EPA 624 Low	MSV/63186		
60174295001	**316-368**	EPA 1664A	WET/49265		
60174295001	**316-368**	EPA 1664A	WET/49266		
60174295001	**316-368**	SM 2540D	WET/49246		
60174295001	**316-368**	SM 4500-H+B	WET/49269		
60174295001	**316-368**	SM 5210B	WET/49231	SM 5210B	WET/49337
60174295001	**316-368**	EPA 350.1	WETA/30358		
60174295001	**316-368**	EPA 410.4	WETA/30413		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60174295

60174295

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 8.8

Date and initials of person examining contents: AH 7/24

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes	☐No	☐N/A	1.
Chain of Custody filled out:	☑Yes	☐No	☐N/A	2.
Chain of Custody relinquished:	☑Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☑Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☑Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes	☐No	☐N/A	7.
Sufficient volume:	☐Yes	☑No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC:	☑Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	BOD initial pH 5.0 added 0.5 mL HNO3 final pH 4.0 BP3S initial pH 4.0 added 2mL H2SO4 final pH 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed AH — Lot # of added preservative 6573-2-3-2, 10524-3-5
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 051214-3BEZ				15.
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A	17. List State:

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: 7/24/14

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:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	(816) 285-8410 Fax
Requested Due Date/TAT:	10 Day (Default)

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174295
1	3(AG3S) 2(BP2U) 316-368 1(BP3N) 1(BP3S) 50/44 43/35	OT	G			7/23/14	900		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 2(AG4U) 1(BP3..) 01
2	TRIP BLANK								2	2																X						2(DG9U) 02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	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	7-23-14	1:20pm	[signature]	7-23-14	1:20pm				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	7/2	01:15	8.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King   DATE Signed: 7/23/14

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

August 07, 2014

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

RE: Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 25, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

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
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174414001	**316-369**	Water	07/24/14 09:00	07/25/14 01:10
60174414002	**TRIP BLANK**	Water	07/24/14 09:00	07/25/14 01:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174414001	**316-369**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174414002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Date: August 07, 2014

Amended report revised 08/06/14 to correct the sample identification reference.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Sample: 316-369 **Lab ID: 60174414001** Collected: 07/24/14 09:00 Received: 07/25/14 01:10 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	**9100**	ug/L	750	2	07/28/14 12:15	07/29/14 17:02	7429-90-5	
Antimony	ND	ug/L	100	2	07/28/14 12:15	07/29/14 17:02	7440-36-0	D3
Arsenic	**1060**	ug/L	50.0	1	07/28/14 12:15	07/29/14 16:58	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/28/14 12:15	07/29/14 16:58	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:58	7440-43-9	
Chromium	**206**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:58	7440-47-3	
Cobalt	**37.9**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:58	7440-48-4	
Copper	ND	ug/L	50.0	1	07/28/14 12:15	07/29/14 16:58	7440-50-8	
Iron	**812000**	ug/L	250	1	07/28/14 12:15	07/29/14 16:58	7439-89-6	
Lead	**164**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:58	7439-92-1	
Nickel	**103**	ug/L	25.0	1	07/28/14 12:15	07/29/14 16:58	7440-02-0	
Selenium	ND	ug/L	150	2	07/28/14 12:15	07/29/14 17:02	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/28/14 12:15	07/29/14 16:58	7440-22-4	
Thallium	ND	ug/L	100	1	07/28/14 12:15	07/29/14 16:58	7440-28-0	
Zinc	**6540**	ug/L	500	2	07/28/14 12:15	07/29/14 17:02	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2610**	ug/L	750	2	07/29/14 16:45	07/30/14 11:44	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/29/14 16:45	07/30/14 11:44	7440-36-0	D3
Arsenic, Dissolved	**927**	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:40	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 11:40	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:40	7440-43-9	
Chromium, Dissolved	**135**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:40	7440-47-3	
Cobalt, Dissolved	**26.6**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:40	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:40	7440-50-8	
Iron, Dissolved	**388000**	ug/L	250	1	07/29/14 16:45	07/30/14 11:40	7439-89-6	M1
Lead, Dissolved	**58.6**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:40	7439-92-1	
Nickel, Dissolved	**88.7**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:40	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/29/14 16:45	07/30/14 11:44	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 11:40	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/29/14 16:45	07/30/14 11:40	7440-28-0	
Zinc, Dissolved	**5760**	ug/L	500	2	07/29/14 16:45	07/30/14 11:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**14.0**	ug/L	6.0	1	07/28/14 16:30	07/29/14 09:14	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/28/14 16:30	07/29/14 09:34	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/28/14 00:00	07/30/14 11:30	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/28/14 00:00	07/30/14 11:30	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**8720**	ug/L	4000	2	07/28/14 00:00	07/30/14 11:30		M1,N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Sample: 316-369 **Lab ID: 60174414001** Collected: 07/24/14 09:00 Received: 07/25/14 01:10 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	07/28/14 00:00	07/30/14 11:30	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	87-86-5	
Phenol	**14200**	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/28/14 00:00	07/30/14 11:30	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	103	%	33-120	2	07/28/14 00:00	07/30/14 11:30	4165-60-0	
2-Fluorobiphenyl (S)	92	%	39-120	2	07/28/14 00:00	07/30/14 11:30	321-60-8	
Terphenyl-d14 (S)	97	%	45-120	2	07/28/14 00:00	07/30/14 11:30	1718-51-0	
Phenol-d6 (S)	40	%	11-120	2	07/28/14 00:00	07/30/14 11:30	13127-88-3	
2-Fluorophenol (S)	56	%	17-120	2	07/28/14 00:00	07/30/14 11:30	367-12-4	
2,4,6-Tribromophenol (S)	106	%	39-120	2	07/28/14 00:00	07/30/14 11:30	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**94200**	ug/L	2000	200		07/28/14 12:55	67-64-1	N2
Benzene	ND	ug/L	200	200		07/28/14 12:55	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/28/14 12:55	75-27-4	
Bromoform	ND	ug/L	200	200		07/28/14 12:55	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/28/14 12:55	74-83-9	
2-Butanone (MEK)	**34900**	ug/L	2000	200		07/28/14 12:55	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/28/14 12:55	56-23-5	
Chloroethane	ND	ug/L	200	200		07/28/14 12:55	75-00-3	
Chloroform	ND	ug/L	200	200		07/28/14 12:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/28/14 12:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/28/14 12:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/28/14 12:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/28/14 12:55	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/28/14 12:55	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/28/14 12:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/28/14 12:55	108-10-1	N2
1,1,2,2-Tetrachloroethane	**608**	ug/L	200	200		07/28/14 12:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/28/14 12:55	127-18-4	
Toluene	ND	ug/L	200	200		07/28/14 12:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/28/14 12:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/28/14 12:55	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/28/14 12:55	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/28/14 12:55	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/28/14 12:55	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	200		07/28/14 12:55	460-00-4	
Toluene-d8 (S)	102	%	80-120	200		07/28/14 12:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		07/28/14 12:55	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/28/14 12:55		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**843**	mg/L	5.0	1		07/30/14 08:42		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Sample: 316-369 **Lab ID: 60174414001** Collected: 07/24/14 09:00 Received: 07/25/14 01:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.6**	mg/L	5.0	1		07/30/14 08:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4200**	mg/L	5.0	1		07/28/14 11:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.3**	Std. Units	0.10	1		07/28/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30800**	mg/L	2.0	1	07/25/14 15:39	07/30/14 15:25		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**594**	mg/L	20.0	200		07/29/14 13:23	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55400**	mg/L	5000	500		07/30/14 09:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

Sample: TRIP BLANK **Lab ID: 60174414002** Collected: 07/24/14 09:00 Received: 07/25/14 01:10 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		07/28/14 13:26	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/28/14 13:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/28/14 13:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/28/14 13:26	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/28/14 13:26	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/28/14 13:26	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/28/14 13:26	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/28/14 13:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/28/14 13:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/28/14 13:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/28/14 13:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/28/14 13:26	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/28/14 13:26	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/28/14 13:26	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/28/14 13:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/28/14 13:26	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/28/14 13:26	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/28/14 13:26	127-18-4	
Toluene	ND	ug/L	1.0	1		07/28/14 13:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/28/14 13:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/28/14 13:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/28/14 13:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/28/14 13:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/28/14 13:26	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		07/28/14 13:26	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/28/14 13:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		07/28/14 13:26	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/28/14 13:26		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: MERP/8636
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174414001

METHOD BLANK: 1417172 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/29/14 09:08	

LABORATORY CONTROL SAMPLE: 1417173

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417174 1417175

Parameter	Units	60174414001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	14.0	150	150	121	120	71	70	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: MERP/8637
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174414001

METHOD BLANK: 1417176 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/29/14 09:23	

LABORATORY CONTROL SAMPLE: 1417177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417178 1417179

Parameter	Units	60174414001 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	115	115	77	77	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: MPRP/28227
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174414001

METHOD BLANK: 1416462
Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/29/14 16:30	
Antimony	ug/L	ND	10.0	07/29/14 16:30	
Arsenic	ug/L	ND	10.0	07/29/14 16:30	
Beryllium	ug/L	ND	1.0	07/29/14 16:30	
Cadmium	ug/L	ND	5.0	07/29/14 16:30	
Chromium	ug/L	ND	5.0	07/29/14 16:30	
Cobalt	ug/L	ND	5.0	07/29/14 16:30	
Copper	ug/L	ND	10.0	07/29/14 16:30	
Iron	ug/L	ND	50.0	07/29/14 16:30	
Lead	ug/L	ND	5.0	07/29/14 16:30	
Nickel	ug/L	ND	5.0	07/29/14 16:30	
Selenium	ug/L	ND	15.0	07/29/14 16:30	
Silver	ug/L	ND	7.0	07/29/14 16:30	
Thallium	ug/L	ND	20.0	07/29/14 16:30	
Zinc	ug/L	ND	50.0	07/29/14 16:30	

LABORATORY CONTROL SAMPLE: 1416463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	970	97	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	997	100	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	985	99	85-115	
Silver	ug/L	500	498	100	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1416464 1416465

Parameter	Units	60174295001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8830	50000	50000	66400	67100	115	117	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5350	5390	106	107	70-130	1	7	
Arsenic	ug/L	983	5000	5000	6070	6600	102	112	70-130	8	10	
Beryllium	ug/L	ND	5000	5000	4830	4840	97	97	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	4970	5340	99	107	70-130	7	10	
Chromium	ug/L	193	5000	5000	5220	5260	100	101	70-130	1	10	
Cobalt	ug/L	34.4	5000	5000	4580	4890	91	97	70-130	7	6	R1
Copper	ug/L	ND	5000	5000	5300	5340	106	106	70-130	1	11	
Iron	ug/L	769000	50000	50000	822000	858000	107	177	70-130	4	10	M1
Lead	ug/L	144	5000	5000	4410	4700	85	91	70-130	6	10	
Nickel	ug/L	97.4	5000	5000	4610	4930	90	97	70-130	7	10	
Selenium	ug/L	ND	5000	5000	5560	5710	111	114	70-130	3	10	
Silver	ug/L	ND	2500	2500	2710	2720	108	109	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4060	4340	81	87	70-130	7	6	R1
Zinc	ug/L	5960	5000	5000	10700	11100	94	103	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: MPRP/28264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174414001

METHOD BLANK: 1417589
Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/30/14 11:37	
Antimony, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Arsenic, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Beryllium, Dissolved	ug/L	ND	1.0	07/30/14 11:37	
Cadmium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Chromium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Cobalt, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Copper, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Iron, Dissolved	ug/L	ND	50.0	07/30/14 11:37	
Lead, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Nickel, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Selenium, Dissolved	ug/L	ND	15.0	07/30/14 11:37	
Silver, Dissolved	ug/L	ND	7.0	07/30/14 11:37	
Thallium, Dissolved	ug/L	ND	20.0	07/30/14 11:37	
Zinc, Dissolved	ug/L	ND	50.0	07/30/14 11:37	

LABORATORY CONTROL SAMPLE: 1417590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1070	107	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	972	97	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	526	105	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417591 1417592

Parameter	Units	60174414001 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	2610	50000	50000	52200	53200	99	101	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5570	5630	111	112	70-130	1	7	
Arsenic, Dissolved	ug/L	927	5000	5000	6390	6560	109	113	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4680	4670	94	93	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5440	5500	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	135	5000	5000	5100	5160	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	26.6	5000	5000	5070	5100	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5380	107	107	70-130	0	11	
Iron, Dissolved	ug/L	388000	50000	50000	387000	417000	-1	60	70-130	8	10	M1
Lead, Dissolved	ug/L	58.6	5000	5000	4630	4600	91	91	70-130	1	10	
Nickel, Dissolved	ug/L	88.7	5000	5000	4980	5000	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5560	5660	111	113	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2850	2900	114	116	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc, Dissolved	ug/L	5760	5000	5000	9700	10200	79	90	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: MSV/63242
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174414001, 60174414002

METHOD BLANK: 1417015
Matrix: Water
Associated Lab Samples: 60174414001, 60174414002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/28/14 11:38	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,2-Dichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/28/14 11:38	
2-Butanone (MEK)	ug/L	ND	10.0	07/28/14 11:38	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/28/14 11:38	N2
Acetone	ug/L	ND	10.0	07/28/14 11:38	N2
Benzene	ug/L	ND	1.0	07/28/14 11:38	
Bromodichloromethane	ug/L	ND	1.0	07/28/14 11:38	
Bromoform	ug/L	ND	1.0	07/28/14 11:38	
Bromomethane	ug/L	ND	5.0	07/28/14 11:38	
Carbon tetrachloride	ug/L	ND	1.0	07/28/14 11:38	
Chloroethane	ug/L	ND	1.0	07/28/14 11:38	
Chloroform	ug/L	ND	1.0	07/28/14 11:38	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/28/14 11:38	N2
Ethylbenzene	ug/L	ND	1.0	07/28/14 11:38	
Methylene chloride	ug/L	ND	1.0	07/28/14 11:38	
Tetrachloroethene	ug/L	ND	1.0	07/28/14 11:38	
Toluene	ug/L	ND	1.0	07/28/14 11:38	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/28/14 11:38	
Trichloroethene	ug/L	ND	1.0	07/28/14 11:38	
Vinyl chloride	ug/L	ND	1.0	07/28/14 11:38	
Xylene (Total)	ug/L	ND	3.0	07/28/14 11:38	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	07/28/14 11:38	
4-Bromofluorobenzene (S)	%	97	80-120	07/28/14 11:38	
Toluene-d8 (S)	%	97	80-120	07/28/14 11:38	

LABORATORY CONTROL SAMPLE: 1417016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.5	98	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.6	108	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.5	103	67-124	
1,2-Dichloroethane	ug/L	20	20.2	101	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	96.0	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	96.5	97	38-134	N2
Benzene	ug/L	20	19.2	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

LABORATORY CONTROL SAMPLE: 1417016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.0	105	68-125	
Bromoform	ug/L	20	21.4	107	65-127	
Bromomethane	ug/L	20	14.0	70	13-157	
Carbon tetrachloride	ug/L	20	19.2	96	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.9	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	100	68-127	N2
Ethylbenzene	ug/L	20	19.3	97	74-122	
Methylene chloride	ug/L	20	17.5	87	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.5	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	16.5	82	43-129	
Xylene (Total)	ug/L	60	59.2	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1417017

Parameter	Units	60174414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3710	93	52-155	
1,1,2,2-Tetrachloroethane	ug/L	608	4000	4170	89	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3760	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3540	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	92	33-140	
2-Butanone (MEK)	ug/L	34900	20000	46200	56	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	20600	100	40-160	N2
Acetone	ug/L	94200	20000	100000	30	10-160	N2
Benzene	ug/L	ND	4000	3730	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3650	91	35-142	
Bromoform	ug/L	ND	4000	3560	89	45-142	
Bromomethane	ug/L	ND	4000	2690	65	10-158	
Carbon tetrachloride	ug/L	ND	4000	3730	93	70-140	
Chloroethane	ug/L	ND	4000	3340	83	19-152	
Chloroform	ug/L	ND	4000	3520	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3550	89	34-147	N2
Ethylbenzene	ug/L	ND	4000	3840	96	40-142	
Methylene chloride	ug/L	ND	4000	2970	72	31-144	
Tetrachloroethene	ug/L	ND	4000	3850	96	64-148	
Toluene	ug/L	ND	4000	3560	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3750	94	71-149	
Vinyl chloride	ug/L	ND	4000	3140	79	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

MATRIX SPIKE SAMPLE: 1417017

Parameter	Units	60174414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				97	80-120	
4-Bromofluorobenzene (S)	%				108	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: OEXT/45306
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174414001

METHOD BLANK: 1417029
Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/30/14 09:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/30/14 09:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/30/14 09:44	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/30/14 09:44	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/30/14 09:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/30/14 09:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/30/14 09:44	
Hexachloroethane	ug/L	ND	5.0	07/30/14 09:44	
Naphthalene	ug/L	ND	5.0	07/30/14 09:44	
Nitrobenzene	ug/L	ND	5.0	07/30/14 09:44	
Pentachlorophenol	ug/L	ND	5.0	07/30/14 09:44	
Phenol	ug/L	ND	5.0	07/30/14 09:44	
2,4,6-Tribromophenol (S)	%	84	39-120	07/30/14 09:44	
2-Fluorobiphenyl (S)	%	92	39-120	07/30/14 09:44	
2-Fluorophenol (S)	%	50	17-120	07/30/14 09:44	
Nitrobenzene-d5 (S)	%	93	33-120	07/30/14 09:44	
Phenol-d6 (S)	%	32	11-120	07/30/14 09:44	
Terphenyl-d14 (S)	%	93	45-120	07/30/14 09:44	

LABORATORY CONTROL SAMPLE: 1417030

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	46.8	94	46-120	
2,4,6-Trichlorophenol	ug/L	50	45.7	91	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.4	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	34.1	68	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	38.5	77	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.7	91	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.7	73	24-120	
Hexachloroethane	ug/L	50	43.1	86	43-113	
Naphthalene	ug/L	50	45.8	92	48-120	
Nitrobenzene	ug/L	50	47.2	94	48-120	
Pentachlorophenol	ug/L	50	41.7	83	47-120	
Phenol	ug/L	50	17.4	35	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			94	39-120	
2-Fluorophenol (S)	%			51	17-120	
Nitrobenzene-d5 (S)	%			94	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

MATRIX SPIKE SAMPLE: 1417031

Parameter	Units	60174414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3720	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4270	85	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	4010	80	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	8720	5000	9700	20	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4320J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3660	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6310	63	11-120	
Hexachloroethane	ug/L	ND	5000	3770	75	40-113	
Naphthalene	ug/L	ND	5000	4080	74	45-120	
Nitrobenzene	ug/L	ND	5000	3930	79	38-120	
Pentachlorophenol	ug/L	ND	5000	4580	92	43-135	
Phenol	ug/L	14200	5000	12000	-44	13-112	M1
2,4,6-Tribromophenol (S)	%				91	39-120	
2-Fluorobiphenyl (S)	%				81	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				86	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				84	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WET/49310 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174414001

METHOD BLANK: 1417728 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/30/14 08:41	

LABORATORY CONTROL SAMPLE: 1417729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.4	84	78-114	

MATRIX SPIKE SAMPLE: 1417731

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	41.7	44.4	80	78-114	

SAMPLE DUPLICATE: 1417730

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	330	400	19	18	D6

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WET/49311 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174414001

METHOD BLANK: 1417732 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/30/14 08:47	

LABORATORY CONTROL SAMPLE: 1417733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.1	100	64-132	

MATRIX SPIKE SAMPLE: 1417735

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.0	56	64-132	M1

SAMPLE DUPLICATE: 1417734

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.2	7.1	2	34	

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WET/49271
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174414001

METHOD BLANK: 1416914
Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/28/14 11:12	

SAMPLE DUPLICATE: 1416915

Parameter	Units	60174357004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	241	249	3	10	

SAMPLE DUPLICATE: 1416916

Parameter	Units	60174410001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1310	1700	26	10	D6

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

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WET/49269
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174414001

SAMPLE DUPLICATE: 1416896

Parameter	Units	60174402006 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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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WET/49255
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174414001

METHOD BLANK: 1416393 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/30/14 15:07	

LABORATORY CONTROL SAMPLE: 1416394

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	201	101	85-115	

SAMPLE DUPLICATE: 1416395

Parameter	Units	60174443001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	759	763	0	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WETA/30412 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174414001

METHOD BLANK: 1417207 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/29/14 13:07	

LABORATORY CONTROL SAMPLE: 1417208

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

MATRIX SPIKE SAMPLE: 1417209

Parameter	Units	60174412014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	68	90-110	M1

MATRIX SPIKE SAMPLE: 1417210

Parameter	Units	60174420001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1417211

Parameter	Units	60174435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.66	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

QC Batch: WETA/30413 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174414001

METHOD BLANK: 1417233 Matrix: Water
Associated Lab Samples: 60174414001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/30/14 09:05	

LABORATORY CONTROL SAMPLE: 1417234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.9	98	90-110	

MATRIX SPIKE SAMPLE: 1417235

Parameter	Units	60173877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66.8	50	117	100	90-110	

MATRIX SPIKE SAMPLE: 1417237

Parameter	Units	60174164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4000	2500	7710	148	90-110	M1

SAMPLE DUPLICATE: 1417236

Parameter	Units	60173953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	14300	14700	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-369
Pace Project No.: 60174414

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60174414001

[1] The samples were received outside of required temperature range. Analysis was completed upon client approval.

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

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 316-369
Pace Project No.: 60174414

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174414001	**316-369**	EPA 200.7	MPRP/28227	EPA 200.7	ICP/21335
60174414001	**316-369**	EPA 200.7	MPRP/28264	EPA 200.7	ICP/21350
60174414001	**316-369**	EPA 245.1	MERP/8636	EPA 245.1	MERC/8591
60174414001	**316-369**	EPA 245.1	MERP/8637	EPA 245.1	MERC/8592
60174414001	**316-369**	EPA 625	OEXT/45306	EPA 625	MSSV/14526
60174414001	**316-369**	EPA 624 Low	MSV/63242		
60174414002	**TRIP BLANK**	EPA 624 Low	MSV/63242		
60174414001	**316-369**	EPA 1664A	WET/49310		
60174414001	**316-369**	EPA 1664A	WET/49311		
60174414001	**316-369**	SM 2540D	WET/49271		
60174414001	**316-369**	SM 4500-H+B	WET/49269		
60174414001	**316-369**	SM 5210B	WET/49255	SM 5210B	WET/49336
60174414001	**316-369**	EPA 350.1	WETA/30412		
60174414001	**316-369**	EPA 410.4	WETA/30413		

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Sample Condition Upon Receipt

WO# : 60174414

60174414

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 13.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: pv 7/25/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. All ice melted in cooler.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 ML of HNO3 to BP3N pH 6.0/4.0 Added 2.0 ML of H2SO4 to BP3S. pH 6.0/2.0
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 12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Cover		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:

email sent to Ed Galbraith - mw 7/25/14

Project Manager Review: MW for AKD Date: 7/25/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174414
1	1BP35 316-369 2A644 1BP36	OT	G			7/24/14	[illegible]		14	10	4	1	0	3AG35					X	X	X	X	X	X	X	X	X	X	X	1BP3N		4.0 2BP2U 5DG9U
2	TRIP BLANK								2	2																X						2DG9U
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Aaron Weber	7-24-14	3:19	[illegible] 800						
SITE ADDRESS: BRIDGETON LF				[illegible]	7/25/14	0110	13.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 7/24/14

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

July 29, 2014

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

RE: Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 25, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Ormond Beach Certification IDs
8 East Tower Circle, Ormond Beach, FL 32174
Alabama Certification #: 41320
Arizona Certification #: AZ0735
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Massachusetts Certification #: M-FL1264
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
Nevada Certification: FL NELAC Reciprocity
New Hampshire Certification #: 2958
New Jersey Certification #: FL765
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
Washington Certification #: C955
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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
Utah Certification #: KS00021

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SAMPLE SUMMARY

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174451001	**COOLING WATER DISCHARGE**	Water	07/24/14 14:15	07/25/14 01:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60174451001	**COOLING WATER DISCHARGE**	EPA 200.7	TDS	1	PASI-K
		SM 2540D	NDL	1	PASI-K
		SM 4500-H+B	JML	1	PASI-K
		SM 5910	NMT	2	PASI-O
		EPA 410.4	JMC1	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Sample: COOLING WATER DISCHARGE **Lab ID: 60174451001** Collected: 07/24/14 14:15 Received: 07/25/14 01:10 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							
Molybdenum	ND	ug/L	20.0	1	07/25/14 15:30	07/28/14 09:38	7439-98-7	
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**12.0**	mg/L	5.0	1		07/28/14 09:58		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		07/28/14 11:00		H6
UV254	Analytical Method: SM 5910							
U254 UV Absorbing Organic	**0.88**	cm-1	0.0040	1		07/26/14 12:36		
U254 UV Absorbing Organic Dup	**0.88**	cm-1	0.0040	1		07/26/14 12:36		
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**11.7**	mg/L	10.0	1		07/28/14 11:47		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

QC Batch: MPRP/28225
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174451001

METHOD BLANK: 1416452
Matrix: Water
Associated Lab Samples: 60174451001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Molybdenum	ug/L	ND	20.0	07/28/14 09:33	

LABORATORY CONTROL SAMPLE: 1416453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Molybdenum	ug/L	1000	970	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1416454 1416455

Parameter	Units	60174451001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Molybdenum	ug/L	ND	1000	1000	981	982	96	96	70-130	0	9	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

QC Batch: WET/49273
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174451001

METHOD BLANK: 1416919 Matrix: Water
Associated Lab Samples: 60174451001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/28/14 09:57	

SAMPLE DUPLICATE: 1416920

Parameter	Units	60174482001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	410	417	2	10	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

QC Batch: WET/49277
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174451001

SAMPLE DUPLICATE: 1416982

Parameter	Units	60174451001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	1	5	H6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

QC Batch: WET/26176
QC Batch Method: SM 5910
Analysis Method: SM 5910
Analysis Description: UV254 UV Absorbing Organics
Associated Lab Samples: 60174451001

METHOD BLANK: 964178 Matrix: Water
Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
U254 UV Absorbing Organic	cm-1	ND	0.0040	07/26/14 12:36	
U254 UV Absorbing Organic Dup	cm-1	ND	0.0040	07/26/14 12:36	

LABORATORY CONTROL SAMPLE: 964179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
U254 UV Absorbing Organic	cm-1	.009	0.0090	100	75-125	
U254 UV Absorbing Organic Dup	cm-1	.009	0.0090	100	75-125	

SAMPLE DUPLICATE: 964180

Parameter	Units	60174451001 Result	Dup Result	RPD	Max RPD	Qualifiers
U254 UV Absorbing Organic	cm-1	0.88	0.86	3	20	
U254 UV Absorbing Organic Dup	cm-1	0.88	0.86	3	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

QC Batch: WETA/30396
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60174451001

METHOD BLANK: 1416814 Matrix: Water
Associated Lab Samples: 60174451001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/28/14 11:37	

LABORATORY CONTROL SAMPLE: 1416815

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.8	92	90-110	

MATRIX SPIKE SAMPLE: 1416816

Parameter	Units	60173208002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6100	2500	8480	96	90-110	

SAMPLE DUPLICATE: 1416817

Parameter	Units	60173850001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	80.1	78.7	2	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-K	Pace Analytical Services - Kansas City
PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.

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

Project: BRIDGETON COOLING WATER DISCH
Pace Project No.: 60174451

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174451001	**COOLING WATER DISCHARGE**	EPA 200.7	MPRP/28225	EPA 200.7	ICP/21321
60174451001	**COOLING WATER DISCHARGE**	SM 2540D	WET/49273		
60174451001	**COOLING WATER DISCHARGE**	SM 4500-H+B	WET/49277		
60174451001	**COOLING WATER DISCHARGE**	SM 5910	WET/26176		
60174451001	**COOLING WATER DISCHARGE**	EPA 410.4	WETA/30396		

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Sample Condition Upon Receipt

WO# : 60174451

60174451

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 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: 2.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DV 7/25/14

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. 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	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: ca for (AK) Date: 7/25

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

Section A
Required Client Information:

Company: BARR ENGINEERING
Address:
Email To:
Phone: 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: MONTHLY UNTREATED COMMINGLED
Project Number:

Section C
Invoice Information:

Attention: JANET ROLLEN
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

Page: of

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MO

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

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

ITEM #	Section D Required Client Information / 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	TCLP VOC EPA 8260	TCLP SVOC EPA 8270	TCLP RCRA 8 6010/7470	TCLP PEST EPA 8081	TCLP HERB EPA 8151	molybdenum (total)	COD	TSS	pH	ultraviolet transmittance	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	Cooling water discharge	WT	G			7/24/14	1415	6	6	4	1	1																	60174457
2																			2	2	2	2	2	2	X	X	X	X	X	1BP3S 1-5 1BP3N 1-5 01
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Hunter King	7-24-14	3:20		7/25/14	0110	2-6	Y	Y	Y

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Hunter King
SIGNATURE of SAMPLER: Hunter King
DATE Signed (MM/DD/YY): 07/24/14

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*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.

Chain of Custody

WO# : 35147733

35147733

Pace Analytical
www.pacelabs.com

Workorder: 60174451 **Workorder Name:** MONTHLY UNTREATED COMMINGLED **Owner Received Date:** 7/25/2014 **Results Requested By:** 7/28/2014

Report To	Subcontract To
Angie Brown Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	Pace Analytical Ormond Beach 8 East Tower Circle Ormond Beach, FL 32174 Phone (386)672-5668

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	none						Ultra violet transmittance												LAB USE ONLY
1	COOLING WATER DISCHARGE	PS	7/24/2014 14:15	60174451001	Water	2						X												
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	7/25/14 1700	[signature]	7/26/14 1125
2				
3				

Comments: Saturday Delivery

Cooler Temperature on Receipt 3.2 °C T168 **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

Pace Analytical	Document Name: Sample Condition Upon Receipt Form	Document Revised: October 9, 2013
	Document No.: F-FL-C-007 rev. 05	Issuing Authorities: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

Table Number: _____

Client Name: PACE-KS Project # 35147733

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

Tracking # 6113 5277 5967

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

Date and Initials of person examining contents: 7/26/14 BP 1125

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

Thermometer Used T168 Type of Ice: (Wet) Blue None

Cooler Temperature °C 3.3 (Visual) -0.1 (Correction Factor) 3.2 (Actual)

(Temp should be above freezing to 6°C). If below 0°C, then was sample frozen? ☐Yes ☐No

Receipt of samples satisfactory: ☑Yes ☐No

Rush TAT requested on COC: 7/28/14

If yes, then all conditions below were met:	If no, then mark box & describe issue (use comments area if necessary):
Chain of Custody Present	☐
Chain of Custody Filled Out	☐
Relinquished Signature & Sampler Name COC	☐
Samples Arrived within Hold Time	☐
~~Sufficient Volume~~	☐
Correct Containers Used	☐
Containers Intact	☐
Sample Labels match COC (sample IDs & date/time of collection)	☐ No Labels: ☐ No Time/Date on Labels: ☐
All containers needing preservation are found to be in compliance with EPA recommendation.	☐
No Headspace in VOA Vials (>6mm):	☐

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution (use back for additional comments): _____

Project Manager Review: _____ Date: _____

Finished Product Information Only

F.P. Sample ID: _____

Production Code: _____

Date/Time Opened: _____

Number of Unopened Bottles Remaining: _____

Extra Sample in Shed: Yes No

Size & Qty of Bottles Received

_____ x 5 Gal
_____ x 2.5 Gal
_____ x 1 Gal
_____ x 1 Liter
_____ x 500 mL
_____ x 250 mL
_____ x Other: _____

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

August 04, 2014

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

RE: Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 26, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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9608 Loiret Blvd.
Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174483001	**316-370**	Water	07/25/14 09:00	07/26/14 01:05
60174483002	**TRIP BLANK**	Water	07/25/14 09:00	07/26/14 01:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174483001	**316-370**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174483002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Sample: 316-370 **Lab ID: 60174483001** Collected: 07/25/14 09:00 Received: 07/26/14 01:05 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	**4950**	ug/L	750	2	07/29/14 16:45	07/30/14 10:43	7429-90-5	
Antimony	ND	ug/L	100	2	07/29/14 16:45	07/30/14 10:43	7440-36-0	D3
Arsenic	**1000**	ug/L	50.0	1	07/29/14 16:45	07/30/14 10:39	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 10:39	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 10:39	7440-43-9	
Chromium	**158**	ug/L	25.0	1	07/29/14 16:45	07/30/14 10:39	7440-47-3	
Cobalt	**29.7**	ug/L	25.0	1	07/29/14 16:45	07/30/14 10:39	7440-48-4	
Copper	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 10:39	7440-50-8	
Iron	**483000**	ug/L	250	1	07/29/14 16:45	07/30/14 10:39	7439-89-6	M1
Lead	**71.4**	ug/L	25.0	1	07/29/14 16:45	07/30/14 10:39	7439-92-1	
Nickel	**95.9**	ug/L	25.0	1	07/29/14 16:45	07/30/14 10:39	7440-02-0	
Selenium	ND	ug/L	150	2	07/29/14 16:45	07/30/14 10:43	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 10:39	7440-22-4	
Thallium	ND	ug/L	100	1	07/29/14 16:45	07/30/14 10:39	7440-28-0	
Zinc	**6660**	ug/L	500	2	07/29/14 16:45	07/30/14 10:43	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2780**	ug/L	750	2	07/29/14 16:45	07/30/14 12:13	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	2	07/29/14 16:45	07/30/14 12:13	7440-36-0	D3
Arsenic, Dissolved	**830**	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 12:09	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:09	7440-43-9	
Chromium, Dissolved	**128**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:09	7440-47-3	
Cobalt, Dissolved	**25.5**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:09	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:09	7440-50-8	
Iron, Dissolved	**358000**	ug/L	250	1	07/29/14 16:45	07/30/14 12:09	7439-89-6	
Lead, Dissolved	**54.6**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:09	7439-92-1	
Nickel, Dissolved	**83.2**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	150	2	07/29/14 16:45	07/30/14 12:13	7782-49-2	D3
Silver, Dissolved	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 12:09	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/29/14 16:45	07/30/14 12:09	7440-28-0	
Zinc, Dissolved	**5420**	ug/L	500	2	07/29/14 16:45	07/30/14 12:13	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10.1**	ug/L	6.0	1	07/28/14 16:30	07/29/14 09:21	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	07/28/14 16:30	07/29/14 09:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/30/14 00:00	07/31/14 15:36	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/30/14 00:00	07/31/14 15:36	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7230**	ug/L	4000	2	07/30/14 00:00	07/31/14 15:36		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Sample: 316-370 **Lab ID: 60174483001** Collected: 07/25/14 09:00 Received: 07/26/14 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	87-86-5	
Phenol	**10900**	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	131	%	33-120	2	07/30/14 00:00	07/31/14 15:36	4165-60-0	S0
2-Fluorobiphenyl (S)	84	%	39-120	2	07/30/14 00:00	07/31/14 15:36	321-60-8	
Terphenyl-d14 (S)	93	%	45-120	2	07/30/14 00:00	07/31/14 15:36	1718-51-0	
Phenol-d6 (S)	44	%	11-120	2	07/30/14 00:00	07/31/14 15:36	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	07/30/14 00:00	07/31/14 15:36	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	07/30/14 00:00	07/31/14 15:36	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**93500**	ug/L	2000	200		07/28/14 14:13	67-64-1	N2
Benzene	ND	ug/L	200	200		07/28/14 14:13	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/28/14 14:13	75-27-4	
Bromoform	ND	ug/L	200	200		07/28/14 14:13	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/28/14 14:13	74-83-9	
2-Butanone (MEK)	**33400**	ug/L	2000	200		07/28/14 14:13	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/28/14 14:13	56-23-5	
Chloroethane	ND	ug/L	200	200		07/28/14 14:13	75-00-3	
Chloroform	ND	ug/L	200	200		07/28/14 14:13	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/28/14 14:13	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/28/14 14:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/28/14 14:13	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/28/14 14:13	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/28/14 14:13	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/28/14 14:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/28/14 14:13	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/28/14 14:13	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/28/14 14:13	127-18-4	
Toluene	ND	ug/L	200	200		07/28/14 14:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/28/14 14:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/28/14 14:13	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/28/14 14:13	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/28/14 14:13	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/28/14 14:13	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	200		07/28/14 14:13	460-00-4	
Toluene-d8 (S)	104	%	80-120	200		07/28/14 14:13	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		07/28/14 14:13	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/28/14 14:13		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**829**	mg/L	5.0	1		07/30/14 08:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Sample: 316-370 **Lab ID: 60174483001** Collected: 07/25/14 09:00 Received: 07/26/14 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.6**	mg/L	5.0	1		07/30/14 08:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3150**	mg/L	5.0	1		07/28/14 11:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28900**	mg/L	2.0	1	07/26/14 10:43	07/31/14 09:04		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**598**	mg/L	20.0	200		07/29/14 13:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**53400**	mg/L	5000	500		07/30/14 09:16		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Sample: TRIP BLANK **Lab ID: 60174483002** Collected: 07/25/14 09:00 Received: 07/26/14 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/28/14 14:29	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/28/14 14:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/28/14 14:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/28/14 14:29	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/28/14 14:29	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/28/14 14:29	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/28/14 14:29	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/28/14 14:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/28/14 14:29	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/28/14 14:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/28/14 14:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/28/14 14:29	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/28/14 14:29	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/28/14 14:29	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/28/14 14:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/28/14 14:29	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/28/14 14:29	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/28/14 14:29	127-18-4	
Toluene	ND	ug/L	1.0	1		07/28/14 14:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/28/14 14:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/28/14 14:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/28/14 14:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/28/14 14:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/28/14 14:29	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		07/28/14 14:29	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/28/14 14:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		07/28/14 14:29	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/28/14 14:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: MERP/8636
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174483001

METHOD BLANK: 1417172 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	07/29/14 09:08	

LABORATORY CONTROL SAMPLE: 1417173

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417174 1417175

Parameter	Units	60174414001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	14.0	150	150	121	120	71	70	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: MERP/8637
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174483001

METHOD BLANK: 1417176 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	07/29/14 09:23	

LABORATORY CONTROL SAMPLE: 1417177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417178 1417179

Parameter	Units	60174414001 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	115	115	77	77	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: MPRP/28267
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174483001

METHOD BLANK: 1417600
Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/30/14 10:29	
Antimony	ug/L	ND	10.0	07/30/14 10:29	
Arsenic	ug/L	ND	10.0	07/30/14 10:29	
Beryllium	ug/L	ND	1.0	07/30/14 10:29	
Cadmium	ug/L	ND	5.0	07/30/14 10:29	
Chromium	ug/L	ND	5.0	07/30/14 10:29	
Cobalt	ug/L	ND	5.0	07/30/14 10:29	
Copper	ug/L	ND	10.0	07/30/14 10:29	
Iron	ug/L	ND	50.0	07/30/14 10:29	
Lead	ug/L	ND	5.0	07/30/14 10:29	
Nickel	ug/L	ND	5.0	07/30/14 10:29	
Selenium	ug/L	ND	15.0	07/30/14 10:29	
Silver	ug/L	ND	7.0	07/30/14 10:29	
Thallium	ug/L	ND	20.0	07/30/14 10:29	
Zinc	ug/L	ND	50.0	07/30/14 10:29	

LABORATORY CONTROL SAMPLE: 1417601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9790	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	977	98	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	524	105	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417602 1417603

Parameter	Units	60174483001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4950	50000	50000	55700	57000	101	104	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5530	5560	110	110	70-130	1	7	
Arsenic	ug/L	1000	5000	5000	6440	6630	109	113	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4840	94	97	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5410	5510	108	110	70-130	2	10	
Chromium	ug/L	158	5000	5000	5110	5250	99	102	70-130	3	10	
Cobalt	ug/L	29.7	5000	5000	5020	5120	100	102	70-130	2	6	
Copper	ug/L	ND	5000	5000	5310	5460	106	109	70-130	3	11	
Iron	ug/L	483000	50000	50000	472000	506000	-22	46	70-130	7	10	M1
Lead	ug/L	71.4	5000	5000	4630	4620	91	91	70-130	0	10	
Nickel	ug/L	95.9	5000	5000	4960	5010	97	98	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5530	5620	110	112	70-130	2	10	
Silver	ug/L	ND	2500	2500	2820	2910	113	116	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4470	4540	89	90	70-130	2	6	
Zinc	ug/L	6660	5000	5000	10600	10900	79	84	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: MPRP/28264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174483001

METHOD BLANK: 1417589
Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/30/14 11:37	
Antimony, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Arsenic, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Beryllium, Dissolved	ug/L	ND	1.0	07/30/14 11:37	
Cadmium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Chromium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Cobalt, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Copper, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Iron, Dissolved	ug/L	ND	50.0	07/30/14 11:37	
Lead, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Nickel, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Selenium, Dissolved	ug/L	ND	15.0	07/30/14 11:37	
Silver, Dissolved	ug/L	ND	7.0	07/30/14 11:37	
Thallium, Dissolved	ug/L	ND	20.0	07/30/14 11:37	
Zinc, Dissolved	ug/L	ND	50.0	07/30/14 11:37	

LABORATORY CONTROL SAMPLE: 1417590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1070	107	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	972	97	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	526	105	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417591 1417592

Parameter	Units	60174414001 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	2610	50000	50000	52200	53200	99	101	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5570	5630	111	112	70-130	1	7	
Arsenic, Dissolved	ug/L	927	5000	5000	6390	6560	109	113	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4680	4670	94	93	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5440	5500	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	135	5000	5000	5100	5160	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	26.6	5000	5000	5070	5100	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5380	107	107	70-130	0	11	
Iron, Dissolved	ug/L	388000	50000	50000	387000	417000	-1	60	70-130	8	10	M1
Lead, Dissolved	ug/L	58.6	5000	5000	4630	4600	91	91	70-130	1	10	
Nickel, Dissolved	ug/L	88.7	5000	5000	4980	5000	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5560	5660	111	113	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2850	2900	114	116	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc, Dissolved	ug/L	5760	5000	5000	9700	10200	79	90	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: MSV/63242 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60174483001, 60174483002

METHOD BLANK: 1417015 Matrix: Water
Associated Lab Samples: 60174483001, 60174483002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/28/14 11:38	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,2-Dichloroethane	ug/L	ND	1.0	07/28/14 11:38	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/28/14 11:38	
2-Butanone (MEK)	ug/L	ND	10.0	07/28/14 11:38	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/28/14 11:38	N2
Acetone	ug/L	ND	10.0	07/28/14 11:38	N2
Benzene	ug/L	ND	1.0	07/28/14 11:38	
Bromodichloromethane	ug/L	ND	1.0	07/28/14 11:38	
Bromoform	ug/L	ND	1.0	07/28/14 11:38	
Bromomethane	ug/L	ND	5.0	07/28/14 11:38	
Carbon tetrachloride	ug/L	ND	1.0	07/28/14 11:38	
Chloroethane	ug/L	ND	1.0	07/28/14 11:38	
Chloroform	ug/L	ND	1.0	07/28/14 11:38	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/28/14 11:38	N2
Ethylbenzene	ug/L	ND	1.0	07/28/14 11:38	
Methylene chloride	ug/L	ND	1.0	07/28/14 11:38	
Tetrachloroethene	ug/L	ND	1.0	07/28/14 11:38	
Toluene	ug/L	ND	1.0	07/28/14 11:38	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/28/14 11:38	
Trichloroethene	ug/L	ND	1.0	07/28/14 11:38	
Vinyl chloride	ug/L	ND	1.0	07/28/14 11:38	
Xylene (Total)	ug/L	ND	3.0	07/28/14 11:38	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	07/28/14 11:38	
4-Bromofluorobenzene (S)	%	97	80-120	07/28/14 11:38	
Toluene-d8 (S)	%	97	80-120	07/28/14 11:38	

LABORATORY CONTROL SAMPLE: 1417016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.5	98	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.6	108	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.5	103	67-124	
1,2-Dichloroethane	ug/L	20	20.2	101	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	96.0	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	112	112	59-131	N2
Acetone	ug/L	100	96.5	97	38-134	N2
Benzene	ug/L	20	19.2	96	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

LABORATORY CONTROL SAMPLE: 1417016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	21.0	105	68-125	
Bromoform	ug/L	20	21.4	107	65-127	
Bromomethane	ug/L	20	14.0	70	13-157	
Carbon tetrachloride	ug/L	20	19.2	96	70-131	
Chloroethane	ug/L	20	18.6	93	47-133	
Chloroform	ug/L	20	19.9	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	100	68-127	N2
Ethylbenzene	ug/L	20	19.3	97	74-122	
Methylene chloride	ug/L	20	17.5	87	64-129	
Tetrachloroethene	ug/L	20	18.8	94	73-125	
Toluene	ug/L	20	18.5	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	16.5	82	43-129	
Xylene (Total)	ug/L	60	59.2	99	75-121	N2
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1417017

Parameter	Units	60174414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3710	93	52-155	
1,1,2,2-Tetrachloroethane	ug/L	608	4000	4170	89	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3760	94	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3540	89	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3760	92	33-140	
2-Butanone (MEK)	ug/L	34900	20000	46200	56	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	20600	100	40-160	N2
Acetone	ug/L	94200	20000	100000	30	10-160	N2
Benzene	ug/L	ND	4000	3730	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3650	91	35-142	
Bromoform	ug/L	ND	4000	3560	89	45-142	
Bromomethane	ug/L	ND	4000	2690	65	10-158	
Carbon tetrachloride	ug/L	ND	4000	3730	93	70-140	
Chloroethane	ug/L	ND	4000	3340	83	19-152	
Chloroform	ug/L	ND	4000	3520	88	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3550	89	34-147	N2
Ethylbenzene	ug/L	ND	4000	3840	96	40-142	
Methylene chloride	ug/L	ND	4000	2970	72	31-144	
Tetrachloroethene	ug/L	ND	4000	3850	96	64-148	
Toluene	ug/L	ND	4000	3560	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3440	86	54-151	
Trichloroethene	ug/L	ND	4000	3750	94	71-149	
Vinyl chloride	ug/L	ND	4000	3140	79	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

MATRIX SPIKE SAMPLE: 1417017

Parameter	Units	60174414001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11200	94	37-144	N2
1,2-Dichloroethane-d4 (S)	%				97	80-120	
4-Bromofluorobenzene (S)	%				108	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: OEXT/45329
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174483001

METHOD BLANK: 1417707
Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/31/14 09:12	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/31/14 09:12	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/31/14 09:12	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/31/14 09:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachloroethane	ug/L	ND	5.0	07/31/14 09:12	
Naphthalene	ug/L	ND	5.0	07/31/14 09:12	
Nitrobenzene	ug/L	ND	5.0	07/31/14 09:12	
Pentachlorophenol	ug/L	ND	5.0	07/31/14 09:12	
Phenol	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Tribromophenol (S)	%	87	39-120	07/31/14 09:12	
2-Fluorobiphenyl (S)	%	81	39-120	07/31/14 09:12	
2-Fluorophenol (S)	%	47	17-120	07/31/14 09:12	
Nitrobenzene-d5 (S)	%	83	33-120	07/31/14 09:12	
Phenol-d6 (S)	%	30	11-120	07/31/14 09:12	
Terphenyl-d14 (S)	%	88	45-120	07/31/14 09:12	

LABORATORY CONTROL SAMPLE: 1417708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.6	83	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.5	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.9	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.0	82	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	38.7	77	43-113	
Naphthalene	ug/L	50	41.9	84	48-120	
Nitrobenzene	ug/L	50	43.0	86	48-120	
Pentachlorophenol	ug/L	50	42.0	84	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			87	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			86	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			97	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

MATRIX SPIKE SAMPLE: 1417709

Parameter	Units	60174483001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4020	80	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3910	78	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	5330	107	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7230	5000	10900	73	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4670J	93	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3910	78	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4300	43	11-120	
Hexachloroethane	ug/L	ND	5000	3700	74	40-113	
Naphthalene	ug/L	ND	5000	4150	78	45-120	
Nitrobenzene	ug/L	ND	5000	4260	85	38-120	
Pentachlorophenol	ug/L	ND	5000	3270	65	43-135	
Phenol	ug/L	10900	5000	13300	48	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				124	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				88	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WET/49310 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174483001

METHOD BLANK: 1417728 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/30/14 08:41	

LABORATORY CONTROL SAMPLE: 1417729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.4	84	78-114	

MATRIX SPIKE SAMPLE: 1417731

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	41.7	44.4	80	78-114	

SAMPLE DUPLICATE: 1417730

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	330	400	19	18	D6

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WET/49311 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174483001

METHOD BLANK: 1417732 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/30/14 08:47	

LABORATORY CONTROL SAMPLE: 1417733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.1	100	64-132	

MATRIX SPIKE SAMPLE: 1417735

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.0	56	64-132	M1

SAMPLE DUPLICATE: 1417734

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.2	7.1	2	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WET/49271 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174483001

METHOD BLANK: 1416914 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/28/14 11:12	

SAMPLE DUPLICATE: 1416915

Parameter	Units	60174357004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	241	249	3	10	

SAMPLE DUPLICATE: 1416916

Parameter	Units	60174410001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1310	1700	26	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174483001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 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 316-370
Pace Project No.: 60174483

QC Batch: WET/49260 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174483001

METHOD BLANK: 1416717 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	07/31/14 08:48	

LABORATORY CONTROL SAMPLE: 1416718

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	190	96	85-115	

SAMPLE DUPLICATE: 1416719

Parameter	Units	60174473001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	332	331	0	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WETA/30412
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174483001

METHOD BLANK: 1417207 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/29/14 13:07	

LABORATORY CONTROL SAMPLE: 1417208

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

MATRIX SPIKE SAMPLE: 1417209

Parameter	Units	60174412014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	68	90-110	M1

MATRIX SPIKE SAMPLE: 1417210

Parameter	Units	60174420001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1417211

Parameter	Units	60174435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.66	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

QC Batch: WETA/30413 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174483001

METHOD BLANK: 1417233 Matrix: Water
Associated Lab Samples: 60174483001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	07/30/14 09:05	

LABORATORY CONTROL SAMPLE: 1417234

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.9	98	90-110	

MATRIX SPIKE SAMPLE: 1417235

Parameter	Units	60173877002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66.8	50	117	100	90-110	

MATRIX SPIKE SAMPLE: 1417237

Parameter	Units	60174164001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	4000	2500	7710	148	90-110	M1

SAMPLE DUPLICATE: 1417236

Parameter	Units	60173953002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	14300	14700	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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Lenexa, KS 66219
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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-370
Pace Project No.: 60174483

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174483001	**316-370**	EPA 200.7	MPRP/28267	EPA 200.7	ICP/21346
60174483001	**316-370**	EPA 200.7	MPRP/28264	EPA 200.7	ICP/21350
60174483001	**316-370**	EPA 245.1	MERP/8636	EPA 245.1	MERC/8591
60174483001	**316-370**	EPA 245.1	MERP/8637	EPA 245.1	MERC/8592
60174483001	**316-370**	EPA 625	OEXT/45329	EPA 625	MSSV/14533
60174483001	**316-370**	EPA 624 Low	MSV/63242		
60174483002	**TRIP BLANK**	EPA 624 Low	MSV/63242		
60174483001	**316-370**	EPA 1664A	WET/49310		
60174483001	**316-370**	EPA 1664A	WET/49311		
60174483001	**316-370**	SM 2540D	WET/49271		
60174483001	**316-370**	SM 4500-H+B	WET/49388		
60174483001	**316-370**	SM 5210B	WET/49260	SM 5210B	WET/49343
60174483001	**316-370**	EPA 350.1	WETA/30412		
60174483001	**316-370**	EPA 410.4	WETA/30413		

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Sample Condition Upon Receipt

WO#: 60174483

60174483

Client Name: Bohr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 7/26

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	GP3N initial pH 5.0 added 2.5mL HNO3 final pH 4.5 GP3S initial pH 4.5 added 3mL H2SO4 final pH 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed: alt — Lot # of added preservative: 12524-2-5, 12513-2-3-2
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 05124-3862				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: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174483
1	2(BP2U) 1(BP3) 316 - 370 9.5/35 1(BP3S) 1(BP3N) 3.9/45	OT	G			7/25/14	900		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DEAU) 3(AG3S) 2(AG4U) 01
2	TRIP BLANK								2	2																X						2(DG4U) 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: 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	7/25/14	12:52	[illegible]	7/25/14	12:52				
SITE ADDRESS: BRIDGETON LF				[illegible] / PASI	7/26	0105	4.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 7/25/14

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

August 04, 2014

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

RE: Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174537001	**316-371**	Water	07/26/14 16:15	07/28/14 13:15
60174537002	**TRIP BLANK**	Water	07/26/14 16:15	07/28/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174537001	**316-371**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174537002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Sample: 316-371 **Lab ID: 60174537001** Collected: 07/26/14 16:15 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3770**	ug/L	750	2	07/29/14 16:45	07/30/14 11:15	7429-90-5	
Antimony	ND	ug/L	100	2	07/29/14 16:45	07/30/14 11:15	7440-36-0	D3
Arsenic	**884**	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:11	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 11:11	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:11	7440-43-9	
Chromium	**143**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:11	7440-47-3	
Cobalt	**31.4**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:11	7440-48-4	
Copper	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:11	7440-50-8	
Iron	**381000**	ug/L	250	1	07/29/14 16:45	07/30/14 11:11	7439-89-6	
Lead	**58.5**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:11	7439-92-1	
Nickel	**106**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:11	7440-02-0	
Selenium	ND	ug/L	150	2	07/29/14 16:45	07/30/14 11:15	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 11:11	7440-22-4	
Thallium	ND	ug/L	100	1	07/29/14 16:45	07/30/14 11:11	7440-28-0	
Zinc	**5460**	ug/L	500	2	07/29/14 16:45	07/30/14 11:15	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1160**	ug/L	375	1	07/29/14 16:45	07/30/14 12:17	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:17	7440-36-0	
Arsenic, Dissolved	**538**	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 12:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:17	7440-43-9	
Chromium, Dissolved	**84.5**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:17	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:17	7440-50-8	
Iron, Dissolved	**202000**	ug/L	250	1	07/29/14 16:45	07/30/14 12:17	7439-89-6	
Lead, Dissolved	**34.0**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:17	7439-92-1	
Nickel, Dissolved	**66.8**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/29/14 16:45	07/30/14 12:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 12:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/29/14 16:45	07/30/14 12:17	7440-28-0	
Zinc, Dissolved	**3010**	ug/L	250	1	07/29/14 16:45	07/30/14 12:17	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	08/04/14 10:00	08/04/14 14:10	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	08/04/14 10:00	08/04/14 14:26	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/30/14 00:00	07/31/14 15:58	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/30/14 00:00	07/31/14 15:58	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4720**	ug/L	4000	2	07/30/14 00:00	07/31/14 15:58		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Sample: 316-371 **Lab ID: 60174537001** Collected: 07/26/14 16:15 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	87-86-5	
Phenol	**6900**	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 15:58	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	111	%	33-120	2	07/30/14 00:00	07/31/14 15:58	4165-60-0	
2-Fluorobiphenyl (S)	84	%	39-120	2	07/30/14 00:00	07/31/14 15:58	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	07/30/14 00:00	07/31/14 15:58	1718-51-0	
Phenol-d6 (S)	41	%	11-120	2	07/30/14 00:00	07/31/14 15:58	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	07/30/14 00:00	07/31/14 15:58	367-12-4	
2,4,6-Tribromophenol (S)	91	%	39-120	2	07/30/14 00:00	07/31/14 15:58	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**62800**	ug/L	2000	200		07/29/14 16:06	67-64-1	N2
Benzene	ND	ug/L	200	200		07/29/14 16:06	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/29/14 16:06	75-27-4	
Bromoform	ND	ug/L	200	200		07/29/14 16:06	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/29/14 16:06	74-83-9	
2-Butanone (MEK)	**23200**	ug/L	2000	200		07/29/14 16:06	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/29/14 16:06	56-23-5	
Chloroethane	ND	ug/L	200	200		07/29/14 16:06	75-00-3	
Chloroform	ND	ug/L	200	200		07/29/14 16:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/29/14 16:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/29/14 16:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:06	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:06	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/29/14 16:06	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/29/14 16:06	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/29/14 16:06	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/29/14 16:06	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/29/14 16:06	127-18-4	
Toluene	ND	ug/L	200	200		07/29/14 16:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/29/14 16:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/29/14 16:06	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/29/14 16:06	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/29/14 16:06	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/29/14 16:06	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		07/29/14 16:06	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		07/29/14 16:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		07/29/14 16:06	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/29/14 16:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**440**	mg/L	5.0	1		07/30/14 08:43		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Sample: 316-371 **Lab ID: 60174537001** Collected: 07/26/14 16:15 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.4**	mg/L	5.0	1		07/30/14 08:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**6660**	mg/L	5.0	1		07/29/14 08:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.0**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**23300**	mg/L	2.0	1	07/28/14 15:48	08/02/14 09:25		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**466**	mg/L	20.0	200		07/29/14 13:36	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**37000**	mg/L	5000	500		08/01/14 08:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Sample: TRIP BLANK **Lab ID: 60174537002** Collected: 07/26/14 16:15 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/29/14 15:19	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/29/14 15:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/29/14 15:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/29/14 15:19	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/29/14 15:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/29/14 15:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/29/14 15:19	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/29/14 15:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/29/14 15:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/29/14 15:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/29/14 15:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:19	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/29/14 15:19	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/29/14 15:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/29/14 15:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/29/14 15:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/29/14 15:19	127-18-4	
Toluene	ND	ug/L	1.0	1		07/29/14 15:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/29/14 15:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/29/14 15:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/29/14 15:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		07/29/14 15:19	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/29/14 15:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		07/29/14 15:19	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/29/14 15:19		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: MERP/8650
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174537001

METHOD BLANK: 1420021 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/04/14 14:06	

LABORATORY CONTROL SAMPLE: 1420022

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: 1420023 1420024

Parameter	Units	60174537001 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	152	154	101	103	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: MERP/8649
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174537001

METHOD BLANK: 1420017 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/04/14 14:22	

LABORATORY CONTROL SAMPLE: 1420018

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420019 1420020

Parameter	Units	60174537001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	154	105	102	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: MPRP/28267
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174537001

METHOD BLANK: 1417600
Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/30/14 10:29	
Antimony	ug/L	ND	10.0	07/30/14 10:29	
Arsenic	ug/L	ND	10.0	07/30/14 10:29	
Beryllium	ug/L	ND	1.0	07/30/14 10:29	
Cadmium	ug/L	ND	5.0	07/30/14 10:29	
Chromium	ug/L	ND	5.0	07/30/14 10:29	
Cobalt	ug/L	ND	5.0	07/30/14 10:29	
Copper	ug/L	ND	10.0	07/30/14 10:29	
Iron	ug/L	ND	50.0	07/30/14 10:29	
Lead	ug/L	ND	5.0	07/30/14 10:29	
Nickel	ug/L	ND	5.0	07/30/14 10:29	
Selenium	ug/L	ND	15.0	07/30/14 10:29	
Silver	ug/L	ND	7.0	07/30/14 10:29	
Thallium	ug/L	ND	20.0	07/30/14 10:29	
Zinc	ug/L	ND	50.0	07/30/14 10:29	

LABORATORY CONTROL SAMPLE: 1417601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9790	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	977	98	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	524	105	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417602 1417603

Parameter	Units	60174483001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4950	50000	50000	55700	57000	101	104	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5530	5560	110	110	70-130	1	7	
Arsenic	ug/L	1000	5000	5000	6440	6630	109	113	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4840	94	97	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5410	5510	108	110	70-130	2	10	
Chromium	ug/L	158	5000	5000	5110	5250	99	102	70-130	3	10	
Cobalt	ug/L	29.7	5000	5000	5020	5120	100	102	70-130	2	6	
Copper	ug/L	ND	5000	5000	5310	5460	106	109	70-130	3	11	
Iron	ug/L	483000	50000	50000	472000	506000	-22	46	70-130	7	10	M1
Lead	ug/L	71.4	5000	5000	4630	4620	91	91	70-130	0	10	
Nickel	ug/L	95.9	5000	5000	4960	5010	97	98	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5530	5620	110	112	70-130	2	10	
Silver	ug/L	ND	2500	2500	2820	2910	113	116	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4470	4540	89	90	70-130	2	6	
Zinc	ug/L	6660	5000	5000	10600	10900	79	84	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: MPRP/28264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174537001

METHOD BLANK: 1417589
Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/30/14 11:37	
Antimony, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Arsenic, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Beryllium, Dissolved	ug/L	ND	1.0	07/30/14 11:37	
Cadmium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Chromium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Cobalt, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Copper, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Iron, Dissolved	ug/L	ND	50.0	07/30/14 11:37	
Lead, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Nickel, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Selenium, Dissolved	ug/L	ND	15.0	07/30/14 11:37	
Silver, Dissolved	ug/L	ND	7.0	07/30/14 11:37	
Thallium, Dissolved	ug/L	ND	20.0	07/30/14 11:37	
Zinc, Dissolved	ug/L	ND	50.0	07/30/14 11:37	

LABORATORY CONTROL SAMPLE: 1417590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1070	107	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	972	97	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	526	105	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417591 1417592

Parameter	Units	60174414001 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	2610	50000	50000	52200	53200	99	101	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5570	5630	111	112	70-130	1	7	
Arsenic, Dissolved	ug/L	927	5000	5000	6390	6560	109	113	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4680	4670	94	93	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5440	5500	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	135	5000	5000	5100	5160	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	26.6	5000	5000	5070	5100	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5380	107	107	70-130	0	11	
Iron, Dissolved	ug/L	388000	50000	50000	387000	417000	-1	60	70-130	8	10	M1
Lead, Dissolved	ug/L	58.6	5000	5000	4630	4600	91	91	70-130	1	10	
Nickel, Dissolved	ug/L	88.7	5000	5000	4980	5000	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5560	5660	111	113	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2850	2900	114	116	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc, Dissolved	ug/L	5760	5000	5000	9700	10200	79	90	70-130	5	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: MSV/63259 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60174537001, 60174537002

METHOD BLANK: 1417341 Matrix: Water
Associated Lab Samples: 60174537001, 60174537002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/29/14 15:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/29/14 15:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/29/14 15:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/29/14 15:04	N2
Acetone	ug/L	ND	10.0	07/29/14 15:04	N2
Benzene	ug/L	ND	1.0	07/29/14 15:04	
Bromodichloromethane	ug/L	ND	1.0	07/29/14 15:04	
Bromoform	ug/L	ND	1.0	07/29/14 15:04	
Bromomethane	ug/L	ND	5.0	07/29/14 15:04	
Carbon tetrachloride	ug/L	ND	1.0	07/29/14 15:04	
Chloroethane	ug/L	ND	1.0	07/29/14 15:04	
Chloroform	ug/L	ND	1.0	07/29/14 15:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	N2
Ethylbenzene	ug/L	ND	1.0	07/29/14 15:04	
Methylene chloride	ug/L	ND	1.0	07/29/14 15:04	
Tetrachloroethene	ug/L	ND	1.0	07/29/14 15:04	
Toluene	ug/L	ND	1.0	07/29/14 15:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Trichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Vinyl chloride	ug/L	ND	1.0	07/29/14 15:04	
Xylene (Total)	ug/L	ND	3.0	07/29/14 15:04	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/29/14 15:04	
4-Bromofluorobenzene (S)	%	99	80-120	07/29/14 15:04	
Toluene-d8 (S)	%	98	80-120	07/29/14 15:04	

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.5	107	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	20.0	100	74-120	
2-Butanone (MEK)	ug/L	100	96.5	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	88.6	89	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	6.4	32	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	25.5	127	47-133	
Chloroform	ug/L	20	20.2	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	68-127	N2
Ethylbenzene	ug/L	20	21.4	107	74-122	
Methylene chloride	ug/L	20	17.3	86	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	14.1	71	43-129	
Xylene (Total)	ug/L	60	61.9	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3790	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3940	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3460	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	95	33-140	
2-Butanone (MEK)	ug/L	23200	20000	37000	69	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18200	90	40-160	N2
Acetone	ug/L	62800	20000	72600	49	10-160	N2
Benzene	ug/L	ND	4000	3740	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3610	90	35-142	
Bromoform	ug/L	ND	4000	3610	90	45-142	
Bromomethane	ug/L	ND	4000	1750	44	10-158	
Carbon tetrachloride	ug/L	ND	4000	3880	97	70-140	
Chloroethane	ug/L	ND	4000	3230	81	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3700	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	2980	74	31-144	
Tetrachloroethene	ug/L	ND	4000	4020	100	64-148	
Toluene	ug/L	ND	4000	3600	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3560	89	54-151	
Trichloroethene	ug/L	ND	4000	3770	94	71-149	
Vinyl chloride	ug/L	ND	4000	2780	70	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11900	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: OEXT/45329
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174537001

METHOD BLANK: 1417707
Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/31/14 09:12	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/31/14 09:12	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/31/14 09:12	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/31/14 09:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachloroethane	ug/L	ND	5.0	07/31/14 09:12	
Naphthalene	ug/L	ND	5.0	07/31/14 09:12	
Nitrobenzene	ug/L	ND	5.0	07/31/14 09:12	
Pentachlorophenol	ug/L	ND	5.0	07/31/14 09:12	
Phenol	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Tribromophenol (S)	%	87	39-120	07/31/14 09:12	
2-Fluorobiphenyl (S)	%	81	39-120	07/31/14 09:12	
2-Fluorophenol (S)	%	47	17-120	07/31/14 09:12	
Nitrobenzene-d5 (S)	%	83	33-120	07/31/14 09:12	
Phenol-d6 (S)	%	30	11-120	07/31/14 09:12	
Terphenyl-d14 (S)	%	88	45-120	07/31/14 09:12	

LABORATORY CONTROL SAMPLE: 1417708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.6	83	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.5	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.9	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.0	82	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	38.7	77	43-113	
Naphthalene	ug/L	50	41.9	84	48-120	
Nitrobenzene	ug/L	50	43.0	86	48-120	
Pentachlorophenol	ug/L	50	42.0	84	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			87	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			86	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			97	45-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

MATRIX SPIKE SAMPLE: 1417709

Parameter	Units	60174483001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4020	80	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3910	78	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	5330	107	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7230	5000	10900	73	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4670J	93	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3910	78	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4300	43	11-120	
Hexachloroethane	ug/L	ND	5000	3700	74	40-113	
Naphthalene	ug/L	ND	5000	4150	78	45-120	
Nitrobenzene	ug/L	ND	5000	4260	85	38-120	
Pentachlorophenol	ug/L	ND	5000	3270	65	43-135	
Phenol	ug/L	10900	5000	13300	48	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				124	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				88	45-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WET/49310 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174537001

METHOD BLANK: 1417728 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/30/14 08:41	

LABORATORY CONTROL SAMPLE: 1417729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.4	84	78-114	

MATRIX SPIKE SAMPLE: 1417731

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	41.7	44.4	80	78-114	

SAMPLE DUPLICATE: 1417730

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	330	400	19	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WET/49311 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174537001

METHOD BLANK: 1417732 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/30/14 08:47	

LABORATORY CONTROL SAMPLE: 1417733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.1	100	64-132	

MATRIX SPIKE SAMPLE: 1417735

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.0	56	64-132	M1

SAMPLE DUPLICATE: 1417734

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.2	7.1	2	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WET/49290
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174537001

METHOD BLANK: 1417296
Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/29/14 08:48	

SAMPLE DUPLICATE: 1417297

Parameter	Units	60174505001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	100	88.0	13	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174537001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WET/49282 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174537001

METHOD BLANK: 1417129 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/02/14 09:10	

LABORATORY CONTROL SAMPLE: 1417130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	100	85-115	

SAMPLE DUPLICATE: 1417131

Parameter	Units	60174528002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	366	399	9	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WETA/30412
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174537001

METHOD BLANK: 1417207 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/29/14 13:07	

LABORATORY CONTROL SAMPLE: 1417208

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

MATRIX SPIKE SAMPLE: 1417209

Parameter	Units	60174412014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	68	90-110	M1

MATRIX SPIKE SAMPLE: 1417210

Parameter	Units	60174420001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1417211

Parameter	Units	60174435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.66	0	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

QC Batch: WETA/30420 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174537001

METHOD BLANK: 1417678 Matrix: Water
Associated Lab Samples: 60174537001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/01/14 08:48	

LABORATORY CONTROL SAMPLE: 1417679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.1	92	90-110	

MATRIX SPIKE SAMPLE: 1417680

Parameter	Units	60174572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69.3	250	353	113	90-110	M1

MATRIX SPIKE SAMPLE: 1417682

Parameter	Units	60173888012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	57.1	114	90-110	M1

SAMPLE DUPLICATE: 1417681

Parameter	Units	60174572003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10.4	9.5J		25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-371
Pace Project No.: 60174537

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174537001	**316-371**	EPA 200.7	MPRP/28267	EPA 200.7	ICP/21346
60174537001	**316-371**	EPA 200.7	MPRP/28264	EPA 200.7	ICP/21350
60174537001	**316-371**	EPA 245.1	MERP/8650	EPA 245.1	MERC/8606
60174537001	**316-371**	EPA 245.1	MERP/8649	EPA 245.1	MERC/8607
60174537001	**316-371**	EPA 625	OEXT/45329	EPA 625	MSSV/14533
60174537001	**316-371**	EPA 624 Low	MSV/63259		
60174537002	**TRIP BLANK**	EPA 624 Low	MSV/63259		
60174537001	**316-371**	EPA 1664A	WET/49310		
60174537001	**316-371**	EPA 1664A	WET/49311		
60174537001	**316-371**	SM 2540D	WET/49290		
60174537001	**316-371**	SM 4500-H+B	WET/49388		
60174537001	**316-371**	SM 5210B	WET/49282	SM 5210B	WET/49389
60174537001	**316-371**	EPA 350.1	WETA/30412		
60174537001	**316-371**	EPA 410.4	WETA/30420		

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Sample Condition Upon Receipt

WO# : 60174537

60174537

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 ☒ 2AL

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

Cooler Temperature: 5.8

Date and initials of person examining contents: JD 7/26

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial pH 5.0 added 1mL Final pH 4.0 BP3N initial pH 6.0 added 2.5mL Final pH 4.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed JB / Lot # of added preservative 12J12-23-2, 12542-2-5
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 7/17/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: NC

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MD Date: 7/28/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency:

State / Location: Missouri

Requested Analysis Filtered (Y/N)

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

JB 7/28 4.0 WS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6014537
1	(2)BP3U (2)BP2U 316-371 BP3U BP3S BP3N	OT	G	(5)AG5S		7/26/14	1615		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		(2)AG4U	(5) DG4U 01
2	TRIP BLANK (2)DG4U								2	2																X						02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	7-28-14	8:55am	[signature] 3115	7-28					
SITE ADDRESS: BRIDGETON LF				[signature] Pace	7/28	1315	5.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 7/26/14

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

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

August 04, 2014

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

RE: Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174539001	**316-373**	Water	07/28/14 07:00	07/28/14 13:15
60174539002	**TRIP BLANK**	Water	07/28/14 07:00	07/28/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174539001	**316-373**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174539002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Sample: 316-373 **Lab ID: 60174539001** Collected: 07/28/14 07:00 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2120**	ug/L	750	2	07/29/14 16:45	07/30/14 11:22	7429-90-5	
Antimony	ND	ug/L	100	2	07/29/14 16:45	07/30/14 11:22	7440-36-0	D3
Arsenic	**654**	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:19	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 11:19	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:19	7440-43-9	
Chromium	**104**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:19	7440-47-3	
Cobalt	**25.5**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:19	7440-48-4	
Copper	**194**	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:19	7440-50-8	
Iron	**222000**	ug/L	250	1	07/29/14 16:45	07/30/14 11:19	7439-89-6	
Lead	**36.4**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:19	7439-92-1	
Nickel	**95.4**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:19	7440-02-0	
Selenium	ND	ug/L	150	2	07/29/14 16:45	07/30/14 11:22	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 11:19	7440-22-4	
Thallium	ND	ug/L	100	1	07/29/14 16:45	07/30/14 11:19	7440-28-0	
Zinc	**3690**	ug/L	500	2	07/29/14 16:45	07/30/14 11:22	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**936**	ug/L	375	1	07/29/14 16:45	07/30/14 12:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:24	7440-36-0	
Arsenic, Dissolved	**608**	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 12:24	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:24	7440-43-9	
Chromium, Dissolved	**94.8**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:24	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:24	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:24	7440-50-8	
Iron, Dissolved	**184000**	ug/L	250	1	07/29/14 16:45	07/30/14 12:24	7439-89-6	
Lead, Dissolved	**41.0**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:24	7439-92-1	D9
Nickel, Dissolved	**88.6**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/29/14 16:45	07/30/14 12:24	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 12:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/29/14 16:45	07/30/14 12:24	7440-28-0	
Zinc, Dissolved	**2430**	ug/L	250	1	07/29/14 16:45	07/30/14 12:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	08/04/14 10:00	08/04/14 14:17	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	08/04/14 10:00	08/04/14 14:37	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/30/14 00:00	07/31/14 16:19	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/30/14 00:00	07/31/14 16:19	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	07/30/14 00:00	07/31/14 16:19		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Sample: 316-373 **Lab ID: 60174539001** Collected: 07/28/14 07:00 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	87-86-5	
Phenol	**4270**	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:19	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	99	%	33-120	2	07/30/14 00:00	07/31/14 16:19	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/30/14 00:00	07/31/14 16:19	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	2	07/30/14 00:00	07/31/14 16:19	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	07/30/14 00:00	07/31/14 16:19	13127-88-3	
2-Fluorophenol (S)	36	%	17-120	2	07/30/14 00:00	07/31/14 16:19	367-12-4	
2,4,6-Tribromophenol (S)	81	%	39-120	2	07/30/14 00:00	07/31/14 16:19	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**55900**	ug/L	2000	200		07/29/14 16:52	67-64-1	N2
Benzene	ND	ug/L	200	200		07/29/14 16:52	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/29/14 16:52	75-27-4	
Bromoform	ND	ug/L	200	200		07/29/14 16:52	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/29/14 16:52	74-83-9	
2-Butanone (MEK)	**23000**	ug/L	2000	200		07/29/14 16:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/29/14 16:52	56-23-5	
Chloroethane	ND	ug/L	200	200		07/29/14 16:52	75-00-3	
Chloroform	ND	ug/L	200	200		07/29/14 16:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/29/14 16:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/29/14 16:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:52	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/29/14 16:52	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/29/14 16:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/29/14 16:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/29/14 16:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/29/14 16:52	127-18-4	
Toluene	ND	ug/L	200	200		07/29/14 16:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/29/14 16:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/29/14 16:52	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/29/14 16:52	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/29/14 16:52	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/29/14 16:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		07/29/14 16:52	460-00-4	
Toluene-d8 (S)	103	%	80-120	200		07/29/14 16:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		07/29/14 16:52	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/29/14 16:52		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**352**	mg/L	5.0	1		07/30/14 08:43		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Sample: 316-373 **Lab ID: 60174539001** Collected: 07/28/14 07:00 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.8**	mg/L	5.0	1		07/30/14 08:49		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4400**	mg/L	5.0	1		07/29/14 08:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.6**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**17600**	mg/L	2.0	1	07/28/14 15:57	08/02/14 09:40		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**379**	mg/L	20.0	200		07/29/14 13:37	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**31300**	mg/L	5000	500		08/01/14 08:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

Sample: TRIP BLANK **Lab ID: 60174539002** Collected: 07/28/14 07:00 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/29/14 15:50	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/29/14 15:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/29/14 15:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/29/14 15:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/29/14 15:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/29/14 15:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/29/14 15:50	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/29/14 15:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/29/14 15:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/29/14 15:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/29/14 15:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:50	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/29/14 15:50	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/29/14 15:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/29/14 15:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/29/14 15:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/29/14 15:50	127-18-4	
Toluene	ND	ug/L	1.0	1		07/29/14 15:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/29/14 15:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/29/14 15:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/29/14 15:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		07/29/14 15:50	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		07/29/14 15:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		07/29/14 15:50	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/29/14 15:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: MERP/8650
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174539001

METHOD BLANK: 1420021 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/04/14 14:06	

LABORATORY CONTROL SAMPLE: 1420022

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: 1420023 1420024

Parameter	Units	60174537001 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	152	154	101	103	70-130	1	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: MERP/8649
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174539001

METHOD BLANK: 1420017 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/04/14 14:22	

LABORATORY CONTROL SAMPLE: 1420018

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420019 1420020

Parameter	Units	60174537001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	154	105	102	70-130	3	20	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: MPRP/28267
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174539001

METHOD BLANK: 1417600
Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/30/14 10:29	
Antimony	ug/L	ND	10.0	07/30/14 10:29	
Arsenic	ug/L	ND	10.0	07/30/14 10:29	
Beryllium	ug/L	ND	1.0	07/30/14 10:29	
Cadmium	ug/L	ND	5.0	07/30/14 10:29	
Chromium	ug/L	ND	5.0	07/30/14 10:29	
Cobalt	ug/L	ND	5.0	07/30/14 10:29	
Copper	ug/L	ND	10.0	07/30/14 10:29	
Iron	ug/L	ND	50.0	07/30/14 10:29	
Lead	ug/L	ND	5.0	07/30/14 10:29	
Nickel	ug/L	ND	5.0	07/30/14 10:29	
Selenium	ug/L	ND	15.0	07/30/14 10:29	
Silver	ug/L	ND	7.0	07/30/14 10:29	
Thallium	ug/L	ND	20.0	07/30/14 10:29	
Zinc	ug/L	ND	50.0	07/30/14 10:29	

LABORATORY CONTROL SAMPLE: 1417601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9790	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	977	98	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	524	105	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417602 1417603

Parameter	Units	60174483001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4950	50000	50000	55700	57000	101	104	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5530	5560	110	110	70-130	1	7	
Arsenic	ug/L	1000	5000	5000	6440	6630	109	113	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4840	94	97	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5410	5510	108	110	70-130	2	10	
Chromium	ug/L	158	5000	5000	5110	5250	99	102	70-130	3	10	
Cobalt	ug/L	29.7	5000	5000	5020	5120	100	102	70-130	2	6	
Copper	ug/L	ND	5000	5000	5310	5460	106	109	70-130	3	11	
Iron	ug/L	483000	50000	50000	472000	506000	-22	46	70-130	7	10	M1
Lead	ug/L	71.4	5000	5000	4630	4620	91	91	70-130	0	10	
Nickel	ug/L	95.9	5000	5000	4960	5010	97	98	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5530	5620	110	112	70-130	2	10	
Silver	ug/L	ND	2500	2500	2820	2910	113	116	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4470	4540	89	90	70-130	2	6	
Zinc	ug/L	6660	5000	5000	10600	10900	79	84	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: MPRP/28264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174539001

METHOD BLANK: 1417589
Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/30/14 11:37	
Antimony, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Arsenic, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Beryllium, Dissolved	ug/L	ND	1.0	07/30/14 11:37	
Cadmium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Chromium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Cobalt, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Copper, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Iron, Dissolved	ug/L	ND	50.0	07/30/14 11:37	
Lead, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Nickel, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Selenium, Dissolved	ug/L	ND	15.0	07/30/14 11:37	
Silver, Dissolved	ug/L	ND	7.0	07/30/14 11:37	
Thallium, Dissolved	ug/L	ND	20.0	07/30/14 11:37	
Zinc, Dissolved	ug/L	ND	50.0	07/30/14 11:37	

LABORATORY CONTROL SAMPLE: 1417590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1070	107	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	972	97	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	526	105	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417591 1417592

Parameter	Units	60174414001 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	2610	50000	50000	52200	53200	99	101	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5570	5630	111	112	70-130	1	7	
Arsenic, Dissolved	ug/L	927	5000	5000	6390	6560	109	113	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4680	4670	94	93	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5440	5500	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	135	5000	5000	5100	5160	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	26.6	5000	5000	5070	5100	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5380	107	107	70-130	0	11	
Iron, Dissolved	ug/L	388000	50000	50000	387000	417000	-1	60	70-130	8	10	M1
Lead, Dissolved	ug/L	58.6	5000	5000	4630	4600	91	91	70-130	1	10	
Nickel, Dissolved	ug/L	88.7	5000	5000	4980	5000	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5560	5660	111	113	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2850	2900	114	116	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc, Dissolved	ug/L	5760	5000	5000	9700	10200	79	90	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: MSV/63259
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174539001, 60174539002

METHOD BLANK: 1417341
Matrix: Water
Associated Lab Samples: 60174539001, 60174539002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/29/14 15:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/29/14 15:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/29/14 15:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/29/14 15:04	N2
Acetone	ug/L	ND	10.0	07/29/14 15:04	N2
Benzene	ug/L	ND	1.0	07/29/14 15:04	
Bromodichloromethane	ug/L	ND	1.0	07/29/14 15:04	
Bromoform	ug/L	ND	1.0	07/29/14 15:04	
Bromomethane	ug/L	ND	5.0	07/29/14 15:04	
Carbon tetrachloride	ug/L	ND	1.0	07/29/14 15:04	
Chloroethane	ug/L	ND	1.0	07/29/14 15:04	
Chloroform	ug/L	ND	1.0	07/29/14 15:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	N2
Ethylbenzene	ug/L	ND	1.0	07/29/14 15:04	
Methylene chloride	ug/L	ND	1.0	07/29/14 15:04	
Tetrachloroethene	ug/L	ND	1.0	07/29/14 15:04	
Toluene	ug/L	ND	1.0	07/29/14 15:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Trichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Vinyl chloride	ug/L	ND	1.0	07/29/14 15:04	
Xylene (Total)	ug/L	ND	3.0	07/29/14 15:04	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/29/14 15:04	
4-Bromofluorobenzene (S)	%	99	80-120	07/29/14 15:04	
Toluene-d8 (S)	%	98	80-120	07/29/14 15:04	

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.5	107	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	20.0	100	74-120	
2-Butanone (MEK)	ug/L	100	96.5	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	88.6	89	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	6.4	32	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	25.5	127	47-133	
Chloroform	ug/L	20	20.2	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	68-127	N2
Ethylbenzene	ug/L	20	21.4	107	74-122	
Methylene chloride	ug/L	20	17.3	86	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	14.1	71	43-129	
Xylene (Total)	ug/L	60	61.9	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3790	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3940	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3460	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	95	33-140	
2-Butanone (MEK)	ug/L	23200	20000	37000	69	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18200	90	40-160	N2
Acetone	ug/L	62800	20000	72600	49	10-160	N2
Benzene	ug/L	ND	4000	3740	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3610	90	35-142	
Bromoform	ug/L	ND	4000	3610	90	45-142	
Bromomethane	ug/L	ND	4000	1750	44	10-158	
Carbon tetrachloride	ug/L	ND	4000	3880	97	70-140	
Chloroethane	ug/L	ND	4000	3230	81	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3700	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	2980	74	31-144	
Tetrachloroethene	ug/L	ND	4000	4020	100	64-148	
Toluene	ug/L	ND	4000	3600	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3560	89	54-151	
Trichloroethene	ug/L	ND	4000	3770	94	71-149	
Vinyl chloride	ug/L	ND	4000	2780	70	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11900	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: OEXT/45329
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174539001

METHOD BLANK: 1417707
Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/31/14 09:12	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/31/14 09:12	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/31/14 09:12	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/31/14 09:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachloroethane	ug/L	ND	5.0	07/31/14 09:12	
Naphthalene	ug/L	ND	5.0	07/31/14 09:12	
Nitrobenzene	ug/L	ND	5.0	07/31/14 09:12	
Pentachlorophenol	ug/L	ND	5.0	07/31/14 09:12	
Phenol	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Tribromophenol (S)	%	87	39-120	07/31/14 09:12	
2-Fluorobiphenyl (S)	%	81	39-120	07/31/14 09:12	
2-Fluorophenol (S)	%	47	17-120	07/31/14 09:12	
Nitrobenzene-d5 (S)	%	83	33-120	07/31/14 09:12	
Phenol-d6 (S)	%	30	11-120	07/31/14 09:12	
Terphenyl-d14 (S)	%	88	45-120	07/31/14 09:12	

LABORATORY CONTROL SAMPLE: 1417708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.6	83	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.5	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.9	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.0	82	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	38.7	77	43-113	
Naphthalene	ug/L	50	41.9	84	48-120	
Nitrobenzene	ug/L	50	43.0	86	48-120	
Pentachlorophenol	ug/L	50	42.0	84	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			87	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			86	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			97	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

MATRIX SPIKE SAMPLE: 1417709

Parameter	Units	60174483001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4020	80	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3910	78	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	5330	107	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7230	5000	10900	73	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4670J	93	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3910	78	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4300	43	11-120	
Hexachloroethane	ug/L	ND	5000	3700	74	40-113	
Naphthalene	ug/L	ND	5000	4150	78	45-120	
Nitrobenzene	ug/L	ND	5000	4260	85	38-120	
Pentachlorophenol	ug/L	ND	5000	3270	65	43-135	
Phenol	ug/L	10900	5000	13300	48	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				124	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WET/49310 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174539001

METHOD BLANK: 1417728 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/30/14 08:41	

LABORATORY CONTROL SAMPLE: 1417729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.4	84	78-114	

MATRIX SPIKE SAMPLE: 1417731

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	41.7	44.4	80	78-114	

SAMPLE DUPLICATE: 1417730

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	330	400	19	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WET/49311
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174539001

METHOD BLANK: 1417732 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/30/14 08:47	

LABORATORY CONTROL SAMPLE: 1417733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.1	100	64-132	

MATRIX SPIKE SAMPLE: 1417735

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.0	56	64-132	M1

SAMPLE DUPLICATE: 1417734

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.2	7.1	2	34	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WET/49290 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174539001

METHOD BLANK: 1417296 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/29/14 08:48	

SAMPLE DUPLICATE: 1417297

Parameter	Units	60174505001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	100	88.0	13	10	D6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174539001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WET/49282 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174539001

METHOD BLANK: 1417129 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/02/14 09:10	

LABORATORY CONTROL SAMPLE: 1417130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	100	85-115	

SAMPLE DUPLICATE: 1417131

Parameter	Units	60174528002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	366	399	9	17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WETA/30412
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174539001

METHOD BLANK: 1417207 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/29/14 13:07	

LABORATORY CONTROL SAMPLE: 1417208

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

MATRIX SPIKE SAMPLE: 1417209

Parameter	Units	60174412014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	68	90-110	M1

MATRIX SPIKE SAMPLE: 1417210

Parameter	Units	60174420001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1417211

Parameter	Units	60174435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.66	0	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

QC Batch: WETA/30420 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174539001

METHOD BLANK: 1417678 Matrix: Water
Associated Lab Samples: 60174539001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/01/14 08:48	

LABORATORY CONTROL SAMPLE: 1417679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.1	92	90-110	

MATRIX SPIKE SAMPLE: 1417680

Parameter	Units	60174572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69.3	250	353	113	90-110	M1

MATRIX SPIKE SAMPLE: 1417682

Parameter	Units	60173888012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	57.1	114	90-110	M1

SAMPLE DUPLICATE: 1417681

Parameter	Units	60174572003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10.4	9.5J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-373
Pace Project No.: 60174539

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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.
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 316-373
Pace Project No.: 60174539

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174539001	**316-373**	EPA 200.7	MPRP/28267	EPA 200.7	ICP/21346
60174539001	**316-373**	EPA 200.7	MPRP/28264	EPA 200.7	ICP/21350
60174539001	**316-373**	EPA 245.1	MERP/8650	EPA 245.1	MERC/8606
60174539001	**316-373**	EPA 245.1	MERP/8649	EPA 245.1	MERC/8607
60174539001	**316-373**	EPA 625	OEXT/45329	EPA 625	MSSV/14533
60174539001	**316-373**	EPA 624 Low	MSV/63259		
60174539002	**TRIP BLANK**	EPA 624 Low	MSV/63259		
60174539001	**316-373**	EPA 1664A	WET/49310		
60174539001	**316-373**	EPA 1664A	WET/49311		
60174539001	**316-373**	SM 2540D	WET/49290		
60174539001	**316-373**	SM 4500-H+B	WET/49388		
60174539001	**316-373**	SM 5210B	WET/49282	SM 5210B	WET/49389
60174539001	**316-373**	EPA 350.1	WETA/30412		
60174539001	**316-373**	EPA 410.4	WETA/30420		

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Sample Condition Upon Receipt

WO#: 60174539

60174539

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: 5.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JD 7/25

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial pH 4.5 added 1ml Final pH 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	BP2N initial pH 6.0 added 2.0ml Final pH 4.5
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed JB Lot # of added preservative 12517-23-2 12542-2-5
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 7/18/14		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MD

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/29/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (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)	60174539
1	(2)DP2H DP3H 3/6-373 DP3S DP3N (3)AG3S	OT	G	7/28/14	7:00				12	10	4	1	0						X	X	X	X	X	X	X	X	X	X	(2)AG4H	(5)DG4H	a1
2	TRIP BLANK (2)DG4H								2	2																X					a2
3																															
4																															
5																															
6																															
7																															
8																															
9																															
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

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	FSI	7-28-14	8:55AM	Dave 305	7-28-14	0645				
SITE ADDRESS: BRIDGETON LF				Jon D. Pace	7/28	1315	5.4	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:		DATE Signed: 7/28/14				

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

August 04, 2014

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

RE: Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 28, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174541001	**316-372**	Water	07/27/14 15:30	07/28/14 13:15
60174541002	**TRIP BLANK**	Water	07/27/14 15:30	07/28/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174541001	**316-372**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174541002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Sample: 316-372 **Lab ID: 60174541001** Collected: 07/27/14 15:30 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2620**	ug/L	750	2	07/29/14 16:45	07/30/14 11:30	7429-90-5	
Antimony	ND	ug/L	100	2	07/29/14 16:45	07/30/14 11:30	7440-36-0	D3
Arsenic	**683**	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:26	7440-38-2	
Beryllium	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 11:26	7440-41-7	
Cadmium	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:26	7440-43-9	
Chromium	**113**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:26	7440-47-3	
Cobalt	**25.7**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:26	7440-48-4	
Copper	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 11:26	7440-50-8	
Iron	**252000**	ug/L	250	1	07/29/14 16:45	07/30/14 11:26	7439-89-6	
Lead	**41.2**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:26	7439-92-1	
Nickel	**95.6**	ug/L	25.0	1	07/29/14 16:45	07/30/14 11:26	7440-02-0	
Selenium	ND	ug/L	150	2	07/29/14 16:45	07/30/14 11:30	7782-49-2	D3
Silver	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 11:26	7440-22-4	
Thallium	ND	ug/L	100	1	07/29/14 16:45	07/30/14 11:26	7440-28-0	
Zinc	**4080**	ug/L	500	2	07/29/14 16:45	07/30/14 11:30	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**816**	ug/L	375	1	07/29/14 16:45	07/30/14 12:39	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:39	7440-36-0	
Arsenic, Dissolved	**544**	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:39	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	07/29/14 16:45	07/30/14 12:39	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:39	7440-43-9	
Chromium, Dissolved	**87.2**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:39	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:39	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	07/29/14 16:45	07/30/14 12:39	7440-50-8	
Iron, Dissolved	**174000**	ug/L	250	1	07/29/14 16:45	07/30/14 12:39	7439-89-6	
Lead, Dissolved	**34.3**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:39	7439-92-1	
Nickel, Dissolved	**77.1**	ug/L	25.0	1	07/29/14 16:45	07/30/14 12:39	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	07/29/14 16:45	07/30/14 12:39	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	07/29/14 16:45	07/30/14 12:39	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	07/29/14 16:45	07/30/14 12:39	7440-28-0	
Zinc, Dissolved	**2380**	ug/L	250	1	07/29/14 16:45	07/30/14 12:39	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	08/04/14 10:00	08/04/14 14:19	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	08/04/14 10:00	08/04/14 14:39	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/30/14 00:00	07/31/14 16:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/30/14 00:00	07/31/14 16:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4590**	ug/L	4000	2	07/30/14 00:00	07/31/14 16:40		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Sample: 316-372 **Lab ID: 60174541001** Collected: 07/27/14 15:30 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	87-86-5	
Phenol	**6600**	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/30/14 00:00	07/31/14 16:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	113	%	33-120	2	07/30/14 00:00	07/31/14 16:40	4165-60-0	
2-Fluorobiphenyl (S)	86	%	39-120	2	07/30/14 00:00	07/31/14 16:40	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	07/30/14 00:00	07/31/14 16:40	1718-51-0	
Phenol-d6 (S)	40	%	11-120	2	07/30/14 00:00	07/31/14 16:40	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	07/30/14 00:00	07/31/14 16:40	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	2	07/30/14 00:00	07/31/14 16:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**51900**	ug/L	2000	200		07/29/14 16:37	67-64-1	N2
Benzene	ND	ug/L	200	200		07/29/14 16:37	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		07/29/14 16:37	75-27-4	
Bromoform	ND	ug/L	200	200		07/29/14 16:37	75-25-2	
Bromomethane	ND	ug/L	1000	200		07/29/14 16:37	74-83-9	
2-Butanone (MEK)	**21300**	ug/L	2000	200		07/29/14 16:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		07/29/14 16:37	56-23-5	
Chloroethane	ND	ug/L	200	200		07/29/14 16:37	75-00-3	
Chloroform	ND	ug/L	200	200		07/29/14 16:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		07/29/14 16:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		07/29/14 16:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		07/29/14 16:37	156-60-5	
Ethylbenzene	ND	ug/L	200	200		07/29/14 16:37	100-41-4	
Methylene chloride	ND	ug/L	200	200		07/29/14 16:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		07/29/14 16:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		07/29/14 16:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		07/29/14 16:37	127-18-4	
Toluene	ND	ug/L	200	200		07/29/14 16:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		07/29/14 16:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		07/29/14 16:37	79-00-5	
Trichloroethene	ND	ug/L	200	200		07/29/14 16:37	79-01-6	
Vinyl chloride	ND	ug/L	200	200		07/29/14 16:37	75-01-4	
Xylene (Total)	ND	ug/L	600	200		07/29/14 16:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		07/29/14 16:37	460-00-4	
Toluene-d8 (S)	95	%	80-120	200		07/29/14 16:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	200		07/29/14 16:37	17060-07-0	
Preservation pH	**6.0**		1.0	200		07/29/14 16:37		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**330**	mg/L	5.0	1		07/30/14 08:43		D6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Sample: 316-372 **Lab ID: 60174541001** Collected: 07/27/14 15:30 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**7.2**	mg/L	5.0	1		07/30/14 08:49		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5220**	mg/L	5.0	1		07/29/14 08:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.5**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**18700**	mg/L	2.0	1	07/28/14 15:54	08/02/14 09:33		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**387**	mg/L	20.0	200		07/29/14 13:38	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**31000**	mg/L	5000	500		08/01/14 08:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Sample: TRIP BLANK **Lab ID: 60174541002** Collected: 07/27/14 15:30 Received: 07/28/14 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		07/29/14 15:35	67-64-1	N2
Benzene	ND	ug/L	1.0	1		07/29/14 15:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		07/29/14 15:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		07/29/14 15:35	75-25-2	
Bromomethane	ND	ug/L	5.0	1		07/29/14 15:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		07/29/14 15:35	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		07/29/14 15:35	56-23-5	
Chloroethane	ND	ug/L	1.0	1		07/29/14 15:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		07/29/14 15:35	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		07/29/14 15:35	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		07/29/14 15:35	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:35	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		07/29/14 15:35	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		07/29/14 15:35	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		07/29/14 15:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		07/29/14 15:35	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		07/29/14 15:35	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		07/29/14 15:35	127-18-4	
Toluene	ND	ug/L	1.0	1		07/29/14 15:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		07/29/14 15:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		07/29/14 15:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		07/29/14 15:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		07/29/14 15:35	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		07/29/14 15:35	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		07/29/14 15:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		07/29/14 15:35	17060-07-0	
Preservation pH	**6.0**		1.0	1		07/29/14 15:35		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: MERP/8650
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174541001

METHOD BLANK: 1420021 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/04/14 14:06	

LABORATORY CONTROL SAMPLE: 1420022

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: 1420023 1420024

Parameter	Units	60174537001 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	152	154	101	103	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: MERP/8649
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174541001

METHOD BLANK: 1420017 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/04/14 14:22	

LABORATORY CONTROL SAMPLE: 1420018

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420019 1420020

Parameter	Units	60174537001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	158	154	105	102	70-130	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: MPRP/28267
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174541001

METHOD BLANK: 1417600
Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	07/30/14 10:29	
Antimony	ug/L	ND	10.0	07/30/14 10:29	
Arsenic	ug/L	ND	10.0	07/30/14 10:29	
Beryllium	ug/L	ND	1.0	07/30/14 10:29	
Cadmium	ug/L	ND	5.0	07/30/14 10:29	
Chromium	ug/L	ND	5.0	07/30/14 10:29	
Cobalt	ug/L	ND	5.0	07/30/14 10:29	
Copper	ug/L	ND	10.0	07/30/14 10:29	
Iron	ug/L	ND	50.0	07/30/14 10:29	
Lead	ug/L	ND	5.0	07/30/14 10:29	
Nickel	ug/L	ND	5.0	07/30/14 10:29	
Selenium	ug/L	ND	15.0	07/30/14 10:29	
Silver	ug/L	ND	7.0	07/30/14 10:29	
Thallium	ug/L	ND	20.0	07/30/14 10:29	
Zinc	ug/L	ND	50.0	07/30/14 10:29	

LABORATORY CONTROL SAMPLE: 1417601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9790	98	85-115	
Antimony	ug/L	1000	1060	106	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	977	98	85-115	
Cadmium	ug/L	1000	1030	103	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1070	107	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9930	99	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	994	99	85-115	
Silver	ug/L	500	524	105	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417602 1417603

Parameter	Units	60174483001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4950	50000	50000	55700	57000	101	104	70-130	2	8	
Antimony	ug/L	ND	5000	5000	5530	5560	110	110	70-130	1	7	
Arsenic	ug/L	1000	5000	5000	6440	6630	109	113	70-130	3	10	
Beryllium	ug/L	ND	5000	5000	4720	4840	94	97	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5410	5510	108	110	70-130	2	10	
Chromium	ug/L	158	5000	5000	5110	5250	99	102	70-130	3	10	
Cobalt	ug/L	29.7	5000	5000	5020	5120	100	102	70-130	2	6	
Copper	ug/L	ND	5000	5000	5310	5460	106	109	70-130	3	11	
Iron	ug/L	483000	50000	50000	472000	506000	-22	46	70-130	7	10	M1
Lead	ug/L	71.4	5000	5000	4630	4620	91	91	70-130	0	10	
Nickel	ug/L	95.9	5000	5000	4960	5010	97	98	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5530	5620	110	112	70-130	2	10	
Silver	ug/L	ND	2500	2500	2820	2910	113	116	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4470	4540	89	90	70-130	2	6	
Zinc	ug/L	6660	5000	5000	10600	10900	79	84	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: MPRP/28264
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174541001

METHOD BLANK: 1417589
Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	07/30/14 11:37	
Antimony, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Arsenic, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Beryllium, Dissolved	ug/L	ND	1.0	07/30/14 11:37	
Cadmium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Chromium, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Cobalt, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Copper, Dissolved	ug/L	ND	10.0	07/30/14 11:37	
Iron, Dissolved	ug/L	ND	50.0	07/30/14 11:37	
Lead, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Nickel, Dissolved	ug/L	ND	5.0	07/30/14 11:37	
Selenium, Dissolved	ug/L	ND	15.0	07/30/14 11:37	
Silver, Dissolved	ug/L	ND	7.0	07/30/14 11:37	
Thallium, Dissolved	ug/L	ND	20.0	07/30/14 11:37	
Zinc, Dissolved	ug/L	ND	50.0	07/30/14 11:37	

LABORATORY CONTROL SAMPLE: 1417590

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9870	99	85-115	
Antimony, Dissolved	ug/L	1000	1070	107	85-115	
Arsenic, Dissolved	ug/L	1000	1000	100	85-115	
Beryllium, Dissolved	ug/L	1000	972	97	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1060	106	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	526	105	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1417591 1417592

Parameter	Units	60174414001 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	2610	50000	50000	52200	53200	99	101	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5570	5630	111	112	70-130	1	7	
Arsenic, Dissolved	ug/L	927	5000	5000	6390	6560	109	113	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4680	4670	94	93	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5440	5500	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	135	5000	5000	5100	5160	99	100	70-130	1	10	
Cobalt, Dissolved	ug/L	26.6	5000	5000	5070	5100	101	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5360	5380	107	107	70-130	0	11	
Iron, Dissolved	ug/L	388000	50000	50000	387000	417000	-1	60	70-130	8	10	M1
Lead, Dissolved	ug/L	58.6	5000	5000	4630	4600	91	91	70-130	1	10	
Nickel, Dissolved	ug/L	88.7	5000	5000	4980	5000	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5560	5660	111	113	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2850	2900	114	116	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc, Dissolved	ug/L	5760	5000	5000	9700	10200	79	90	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: MSV/63259
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174541001, 60174541002

METHOD BLANK: 1417341
Matrix: Water
Associated Lab Samples: 60174541001, 60174541002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	07/29/14 15:04	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,2-Dichloroethane	ug/L	ND	1.0	07/29/14 15:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	07/29/14 15:04	
2-Butanone (MEK)	ug/L	ND	10.0	07/29/14 15:04	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	07/29/14 15:04	N2
Acetone	ug/L	ND	10.0	07/29/14 15:04	N2
Benzene	ug/L	ND	1.0	07/29/14 15:04	
Bromodichloromethane	ug/L	ND	1.0	07/29/14 15:04	
Bromoform	ug/L	ND	1.0	07/29/14 15:04	
Bromomethane	ug/L	ND	5.0	07/29/14 15:04	
Carbon tetrachloride	ug/L	ND	1.0	07/29/14 15:04	
Chloroethane	ug/L	ND	1.0	07/29/14 15:04	
Chloroform	ug/L	ND	1.0	07/29/14 15:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	N2
Ethylbenzene	ug/L	ND	1.0	07/29/14 15:04	
Methylene chloride	ug/L	ND	1.0	07/29/14 15:04	
Tetrachloroethene	ug/L	ND	1.0	07/29/14 15:04	
Toluene	ug/L	ND	1.0	07/29/14 15:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Trichloroethene	ug/L	ND	1.0	07/29/14 15:04	
Vinyl chloride	ug/L	ND	1.0	07/29/14 15:04	
Xylene (Total)	ug/L	ND	3.0	07/29/14 15:04	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	07/29/14 15:04	
4-Bromofluorobenzene (S)	%	99	80-120	07/29/14 15:04	
Toluene-d8 (S)	%	98	80-120	07/29/14 15:04	

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	21.5	107	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	20.0	100	74-120	
2-Butanone (MEK)	ug/L	100	96.5	97	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	107	107	59-131	N2
Acetone	ug/L	100	88.6	89	38-134	N2
Benzene	ug/L	20	19.5	98	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

LABORATORY CONTROL SAMPLE: 1417342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.2	96	65-127	
Bromomethane	ug/L	20	6.4	32	13-157	
Carbon tetrachloride	ug/L	20	18.9	95	70-131	
Chloroethane	ug/L	20	25.5	127	47-133	
Chloroform	ug/L	20	20.2	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	68-127	N2
Ethylbenzene	ug/L	20	21.4	107	74-122	
Methylene chloride	ug/L	20	17.3	86	64-129	
Tetrachloroethene	ug/L	20	20.1	101	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	14.1	71	43-129	
Xylene (Total)	ug/L	60	61.9	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3790	95	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3940	98	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3460	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3790	95	33-140	
2-Butanone (MEK)	ug/L	23200	20000	37000	69	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18200	90	40-160	N2
Acetone	ug/L	62800	20000	72600	49	10-160	N2
Benzene	ug/L	ND	4000	3740	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3610	90	35-142	
Bromoform	ug/L	ND	4000	3610	90	45-142	
Bromomethane	ug/L	ND	4000	1750	44	10-158	
Carbon tetrachloride	ug/L	ND	4000	3880	97	70-140	
Chloroethane	ug/L	ND	4000	3230	81	19-152	
Chloroform	ug/L	ND	4000	3590	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3700	92	34-147	N2
Ethylbenzene	ug/L	ND	4000	3930	98	40-142	
Methylene chloride	ug/L	ND	4000	2980	74	31-144	
Tetrachloroethene	ug/L	ND	4000	4020	100	64-148	
Toluene	ug/L	ND	4000	3600	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3560	89	54-151	
Trichloroethene	ug/L	ND	4000	3770	94	71-149	
Vinyl chloride	ug/L	ND	4000	2780	70	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

MATRIX SPIKE SAMPLE: 1417343

Parameter	Units	60174537001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11900	100	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				96	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: OEXT/45329
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174541001

METHOD BLANK: 1417707
Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	07/31/14 09:12	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	07/31/14 09:12	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	07/31/14 09:12	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	07/31/14 09:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	07/31/14 09:12	
Hexachloroethane	ug/L	ND	5.0	07/31/14 09:12	
Naphthalene	ug/L	ND	5.0	07/31/14 09:12	
Nitrobenzene	ug/L	ND	5.0	07/31/14 09:12	
Pentachlorophenol	ug/L	ND	5.0	07/31/14 09:12	
Phenol	ug/L	ND	5.0	07/31/14 09:12	
2,4,6-Tribromophenol (S)	%	87	39-120	07/31/14 09:12	
2-Fluorobiphenyl (S)	%	81	39-120	07/31/14 09:12	
2-Fluorophenol (S)	%	47	17-120	07/31/14 09:12	
Nitrobenzene-d5 (S)	%	83	33-120	07/31/14 09:12	
Phenol-d6 (S)	%	30	11-120	07/31/14 09:12	
Terphenyl-d14 (S)	%	88	45-120	07/31/14 09:12	

LABORATORY CONTROL SAMPLE: 1417708

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.6	83	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.5	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	34.5	69	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.9	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	54.2	108	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.0	82	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	38.7	77	43-113	
Naphthalene	ug/L	50	41.9	84	48-120	
Nitrobenzene	ug/L	50	43.0	86	48-120	
Pentachlorophenol	ug/L	50	42.0	84	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			87	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			86	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			97	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

MATRIX SPIKE SAMPLE: 1417709

Parameter	Units	60174483001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4020	80	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3910	78	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	5330	107	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	7230	5000	10900	73	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4670J	93	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3910	78	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4300	43	11-120	
Hexachloroethane	ug/L	ND	5000	3700	74	40-113	
Naphthalene	ug/L	ND	5000	4150	78	45-120	
Nitrobenzene	ug/L	ND	5000	4260	85	38-120	
Pentachlorophenol	ug/L	ND	5000	3270	65	43-135	
Phenol	ug/L	10900	5000	13300	48	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				124	33-120	S0
Phenol-d6 (S)	%				45	11-120	
Terphenyl-d14 (S)	%				88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WET/49310 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174541001

METHOD BLANK: 1417728 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	07/30/14 08:41	

LABORATORY CONTROL SAMPLE: 1417729

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	33.4	84	78-114	

MATRIX SPIKE SAMPLE: 1417731

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	41.7	44.4	80	78-114	

SAMPLE DUPLICATE: 1417730

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	330	400	19	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WET/49311 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174541001

METHOD BLANK: 1417732 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	07/30/14 08:47	

LABORATORY CONTROL SAMPLE: 1417733

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.1	100	64-132	

MATRIX SPIKE SAMPLE: 1417735

Parameter	Units	60174308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.0	56	64-132	M1

SAMPLE DUPLICATE: 1417734

Parameter	Units	60174541001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.2	7.1	2	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WET/49290 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174541001

METHOD BLANK: 1417296 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/29/14 08:48	

SAMPLE DUPLICATE: 1417297

Parameter	Units	60174505001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	100	88.0	13	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174541001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 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 316-372
Pace Project No.: 60174541

QC Batch: WET/49282 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174541001

METHOD BLANK: 1417129 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/02/14 09:10	

LABORATORY CONTROL SAMPLE: 1417130

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	100	85-115	

SAMPLE DUPLICATE: 1417131

Parameter	Units	60174528002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	366	399	9	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WETA/30412 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174541001

METHOD BLANK: 1417207 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/29/14 13:07	

LABORATORY CONTROL SAMPLE: 1417208

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

MATRIX SPIKE SAMPLE: 1417209

Parameter	Units	60174412014 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	68	90-110	M1

MATRIX SPIKE SAMPLE: 1417210

Parameter	Units	60174420001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	96	90-110	

SAMPLE DUPLICATE: 1417211

Parameter	Units	60174435005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.66	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

QC Batch: WETA/30420 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174541001

METHOD BLANK: 1417678 Matrix: Water
Associated Lab Samples: 60174541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/01/14 08:48	

LABORATORY CONTROL SAMPLE: 1417679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.1	92	90-110	

MATRIX SPIKE SAMPLE: 1417680

Parameter	Units	60174572001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69.3	250	353	113	90-110	M1

MATRIX SPIKE SAMPLE: 1417682

Parameter	Units	60173888012 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	57.1	114	90-110	M1

SAMPLE DUPLICATE: 1417681

Parameter	Units	60174572003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	10.4	9.5J		25	

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QUALIFIERS

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-372
Pace Project No.: 60174541

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174541001	**316-372**	EPA 200.7	MPRP/28267	EPA 200.7	ICP/21346
60174541001	**316-372**	EPA 200.7	MPRP/28264	EPA 200.7	ICP/21350
60174541001	**316-372**	EPA 245.1	MERP/8650	EPA 245.1	MERC/8606
60174541001	**316-372**	EPA 245.1	MERP/8649	EPA 245.1	MERC/8607
60174541001	**316-372**	EPA 625	OEXT/45329	EPA 625	MSSV/14533
60174541001	**316-372**	EPA 624 Low	MSV/63259		
60174541002	**TRIP BLANK**	EPA 624 Low	MSV/63259		
60174541001	**316-372**	EPA 1664A	WET/49310		
60174541001	**316-372**	EPA 1664A	WET/49311		
60174541001	**316-372**	SM 2540D	WET/49290		
60174541001	**316-372**	SM 4500-H+B	WET/49388		
60174541001	**316-372**	SM 5210B	WET/49282	SM 5210B	WET/49389
60174541001	**316-372**	EPA 350.1	WETA/30412		
60174541001	**316-372**	EPA 410.4	WETA/30420		

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Sample Condition Upon Receipt

WO# : 60174541

60174541

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 7/28

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S initial pH 4.5 added 1mL Final pH 5.5 BP3N initial pH 5.5 added 2.5 mL Final pH 4.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed JB / Lot # of added preservative 12513-27-2, 12342-2-5
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 7/18/14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	1 of 5 Dean
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 7/28/14

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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.		Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	
Missouri	

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174541
1	(2)BP2U 316-372 BP3N BP3S BP3N (3)AG3S	OT	G			7/27/14	1520		14	10	4	1	0					X	X	X	X	X	X	X	X	X	X	X	(3)	Residual Chlorine (Y/N)	60174541
2	TRIP BLANK (2)DG9A								2	2																X					
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FSI	7-28-14	8:55		7-28-14	0955				
SITE ADDRESS: BRIDGETON LF				Pace	7/28	1315	5.0	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:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 7/27/14				

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

August 07, 2014

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

RE: Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 30, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174619001	**316-374**	Water	07/29/14 09:07	07/30/14 03:50
60174619002	**TRIP BLANK**	Water	07/29/14 09:07	07/30/14 03:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174619001	**316-374**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174619002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Sample: 316-374 **Lab ID: 60174619001** Collected: 07/29/14 09:07 Received: 07/30/14 03:50 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	**18100**	ug/L	750	2	08/01/14 11:00	08/05/14 14:32	7429-90-5	
Antimony	ND	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:30	7440-36-0	
Arsenic	**868**	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:30	7440-38-2	
Beryllium	ND	ug/L	5.0	1	08/01/14 11:00	08/05/14 14:30	7440-41-7	
Cadmium	ND	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:30	7440-43-9	
Chromium	**226**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:30	7440-47-3	
Cobalt	**38.8**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:30	7440-48-4	
Copper	**50.6**	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:30	7440-50-8	
Iron	**681000**	ug/L	250	1	08/01/14 11:00	08/05/14 14:30	7439-89-6	M1
Lead	**131**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:30	7439-92-1	
Nickel	**127**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:30	7440-02-0	
Selenium	ND	ug/L	75.0	1	08/01/14 11:00	08/05/14 14:30	7782-49-2	
Silver	ND	ug/L	35.0	1	08/01/14 11:00	08/05/14 14:30	7440-22-4	
Thallium	ND	ug/L	100	1	08/01/14 11:00	08/05/14 14:30	7440-28-0	
Zinc	**4820**	ug/L	500	2	08/01/14 11:00	08/05/14 14:32	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**691**	ug/L	375	1	08/01/14 17:10	08/05/14 13:55	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	08/01/14 17:10	08/05/14 13:55	7440-36-0	
Arsenic, Dissolved	**604**	ug/L	50.0	1	08/01/14 17:10	08/05/14 13:55	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	08/01/14 17:10	08/05/14 13:55	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	08/01/14 17:10	08/05/14 13:55	7440-43-9	
Chromium, Dissolved	**128**	ug/L	25.0	1	08/01/14 17:10	08/05/14 13:55	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	08/01/14 17:10	08/05/14 13:55	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	08/01/14 17:10	08/05/14 13:55	7440-50-8	
Iron, Dissolved	**205000**	ug/L	250	1	08/01/14 17:10	08/05/14 13:55	7439-89-6	M1
Lead, Dissolved	**28.7**	ug/L	25.0	1	08/01/14 17:10	08/05/14 13:55	7439-92-1	
Nickel, Dissolved	**80.0**	ug/L	25.0	1	08/01/14 17:10	08/05/14 13:55	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	08/01/14 17:10	08/05/14 13:55	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	08/01/14 17:10	08/05/14 13:55	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	08/01/14 17:10	08/05/14 13:55	7440-28-0	
Zinc, Dissolved	**2800**	ug/L	250	1	08/01/14 17:10	08/05/14 13:55	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	08/05/14 15:45	08/06/14 10:27	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	08/05/14 15:45	08/06/14 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	07/31/14 00:00	08/01/14 17:39	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/31/14 00:00	08/01/14 17:39	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4320**	ug/L	4000	2	07/31/14 00:00	08/01/14 17:39		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Sample: 316-374 **Lab ID: 60174619001** Collected: 07/29/14 09:07 Received: 07/30/14 03:50 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	07/31/14 00:00	08/01/14 17:39	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	87-86-5	
Phenol	**7550**	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 17:39	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	75	%	33-120	2	07/31/14 00:00	08/01/14 17:39	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	2	07/31/14 00:00	08/01/14 17:39	321-60-8	
Terphenyl-d14 (S)	73	%	45-120	2	07/31/14 00:00	08/01/14 17:39	1718-51-0	
Phenol-d6 (S)	36	%	11-120	2	07/31/14 00:00	08/01/14 17:39	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	07/31/14 00:00	08/01/14 17:39	367-12-4	
2,4,6-Tribromophenol (S)	81	%	39-120	2	07/31/14 00:00	08/01/14 17:39	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**63300**	ug/L	2000	200		08/05/14 10:25	67-64-1	N2
Benzene	ND	ug/L	200	200		08/05/14 10:25	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/05/14 10:25	75-27-4	
Bromoform	ND	ug/L	200	200		08/05/14 10:25	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/05/14 10:25	74-83-9	
2-Butanone (MEK)	**24800**	ug/L	2000	200		08/05/14 10:25	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		08/05/14 10:25	56-23-5	
Chloroethane	ND	ug/L	200	200		08/05/14 10:25	75-00-3	
Chloroform	ND	ug/L	200	200		08/05/14 10:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/05/14 10:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/05/14 10:25	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 10:25	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 10:25	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/05/14 10:25	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/05/14 10:25	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		08/05/14 10:25	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/05/14 10:25	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		08/05/14 10:25	127-18-4	
Toluene	ND	ug/L	200	200		08/05/14 10:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/05/14 10:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/05/14 10:25	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/05/14 10:25	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/05/14 10:25	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/05/14 10:25	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		08/05/14 10:25	460-00-4	
Toluene-d8 (S)	96	%	80-120	200		08/05/14 10:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		08/05/14 10:25	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/05/14 10:25		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**336**	mg/L	5.0	1		08/05/14 08:14		M1

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Sample: 316-374 **Lab ID: 60174619001** Collected: 07/29/14 09:07 Received: 07/30/14 03:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**26.4**	mg/L	5.0	1		08/05/14 08:27		M1
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2180**	mg/L	5.0	1		07/30/14 11:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**17000**	mg/L	2.0	1	07/30/14 16:32	08/04/14 16:57		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**428**	mg/L	20.0	200		07/30/14 11:17	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**39100**	mg/L	5000	500		08/04/14 11:33		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Sample: TRIP BLANK **Lab ID: 60174619002** Collected: 07/29/14 09:07 Received: 07/30/14 03:50 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		08/05/14 10:56	67-64-1	N2
Benzene	ND	ug/L	1.0	1		08/05/14 10:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/05/14 10:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/05/14 10:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/05/14 10:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		08/05/14 10:56	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		08/05/14 10:56	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/05/14 10:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/05/14 10:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/05/14 10:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/05/14 10:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 10:56	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 10:56	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/05/14 10:56	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/05/14 10:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		08/05/14 10:56	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/05/14 10:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		08/05/14 10:56	127-18-4	
Toluene	ND	ug/L	1.0	1		08/05/14 10:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/05/14 10:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/05/14 10:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/05/14 10:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/05/14 10:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/05/14 10:56	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		08/05/14 10:56	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/05/14 10:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		08/05/14 10:56	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/05/14 10:56		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: MERP/8662
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174619001

METHOD BLANK: 1420726 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/06/14 10:09	

LABORATORY CONTROL SAMPLE: 1420727

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: 1420728 1420729

Parameter	Units	60174619001 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	121	117	81	78	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: MERP/8661
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174619001

METHOD BLANK: 1420722 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/06/14 09:56	

LABORATORY CONTROL SAMPLE: 1420723

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420724 1420725

Parameter	Units	60174619001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	134	90	89	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: MPRP/28299
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174619001

METHOD BLANK: 1418528
Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/05/14 14:25	
Antimony	ug/L	ND	10.0	08/05/14 14:25	
Arsenic	ug/L	ND	10.0	08/05/14 14:25	
Beryllium	ug/L	ND	1.0	08/05/14 14:25	
Cadmium	ug/L	ND	5.0	08/05/14 14:25	
Chromium	ug/L	ND	5.0	08/05/14 14:25	
Cobalt	ug/L	ND	5.0	08/05/14 14:25	
Copper	ug/L	ND	10.0	08/05/14 14:25	
Iron	ug/L	ND	50.0	08/05/14 14:25	
Lead	ug/L	ND	5.0	08/05/14 14:25	
Nickel	ug/L	ND	5.0	08/05/14 14:25	
Selenium	ug/L	ND	15.0	08/05/14 14:25	
Silver	ug/L	ND	7.0	08/05/14 14:25	
Thallium	ug/L	ND	20.0	08/05/14 14:25	
Zinc	ug/L	ND	50.0	08/05/14 14:25	

LABORATORY CONTROL SAMPLE: 1418529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	8800	88	85-115	
Antimony	ug/L	1000	901	90	85-115	
Arsenic	ug/L	1000	868	87	85-115	
Beryllium	ug/L	1000	904	90	85-115	
Cadmium	ug/L	1000	890	89	85-115	
Chromium	ug/L	1000	907	91	85-115	
Cobalt	ug/L	1000	913	91	85-115	
Copper	ug/L	1000	900	90	85-115	
Iron	ug/L	10000	9270	93	85-115	
Lead	ug/L	1000	931	93	85-115	
Nickel	ug/L	1000	932	93	85-115	
Selenium	ug/L	1000	874	87	85-115	
Silver	ug/L	500	444	89	85-115	
Thallium	ug/L	1000	922	92	85-115	
Zinc	ug/L	1000	893	89	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1418530 1418531

Parameter	Units	60174619001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	18100	50000	50000	83300	81000	130	126	70-130	3	8	
Antimony	ug/L	ND	5000	5000	5070	5230	101	104	70-130	3	7	
Arsenic	ug/L	868	5000	5000	6180	6410	106	111	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4680	4830	94	97	70-130	3	7	
Cadmium	ug/L	ND	5000	5000	5060	5210	101	104	70-130	3	10	
Chromium	ug/L	226	5000	5000	4900	5060	94	97	70-130	3	10	
Cobalt	ug/L	38.8	5000	5000	4640	4780	92	95	70-130	3	6	
Copper	ug/L	50.6	5000	5000	5280	5390	105	107	70-130	2	11	
Iron	ug/L	681000	50000	50000	742000	792000	123	222	70-130	6	10	M1
Lead	ug/L	131	5000	5000	4560	4700	89	91	70-130	3	10	
Nickel	ug/L	127	5000	5000	4740	4890	92	95	70-130	3	10	
Selenium	ug/L	ND	5000	5000	5680	5840	112	116	70-130	3	10	
Silver	ug/L	ND	2500	2500	2530	2610	101	104	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4030	4160	81	83	70-130	3	6	
Zinc	ug/L	4820	5000	5000	9630	9610	96	96	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: MPRP/28322
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174619001

METHOD BLANK: 1419605
Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/05/14 13:49	
Antimony, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Arsenic, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Beryllium, Dissolved	ug/L	ND	1.0	08/05/14 13:49	
Cadmium, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Chromium, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Cobalt, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Copper, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Iron, Dissolved	ug/L	ND	50.0	08/05/14 13:49	
Lead, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Nickel, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Selenium, Dissolved	ug/L	ND	15.0	08/05/14 13:49	
Silver, Dissolved	ug/L	ND	7.0	08/05/14 13:49	
Thallium, Dissolved	ug/L	ND	20.0	08/05/14 13:49	
Zinc, Dissolved	ug/L	ND	50.0	08/05/14 13:49	

LABORATORY CONTROL SAMPLE: 1419606

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	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	985	98	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	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	499	100	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	991	99	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1419607 1419608

Parameter	Units	60174619001 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	691	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5400	105	107	70-130	2	7	
Arsenic, Dissolved	ug/L	604	5000	5000	5960	5960	107	107	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4820	98	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5280	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	128	5000	5000	5020	4840	98	94	70-130	4	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5400	5420	108	108	70-130	0	11	
Iron, Dissolved	ug/L	205000	50000	50000	248000	235000	86	61	70-130	5	10	M1
Lead, Dissolved	ug/L	28.7	5000	5000	4690	4740	93	94	70-130	1	10	
Nickel, Dissolved	ug/L	80.0	5000	5000	4880	4910	96	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5760	112	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4420	87	88	70-130	2	6	
Zinc, Dissolved	ug/L	2800	5000	5000	7280	7010	90	84	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: MSV/63359 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60174619001, 60174619002

METHOD BLANK: 1420412 Matrix: Water
Associated Lab Samples: 60174619001, 60174619002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/05/14 10:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,2-Dichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/05/14 10:09	
2-Butanone (MEK)	ug/L	ND	10.0	08/05/14 10:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	08/05/14 10:09	N2
Acetone	ug/L	ND	10.0	08/05/14 10:09	N2
Benzene	ug/L	ND	1.0	08/05/14 10:09	
Bromodichloromethane	ug/L	ND	1.0	08/05/14 10:09	
Bromoform	ug/L	ND	1.0	08/05/14 10:09	
Bromomethane	ug/L	ND	5.0	08/05/14 10:09	
Carbon tetrachloride	ug/L	ND	1.0	08/05/14 10:09	
Chloroethane	ug/L	ND	1.0	08/05/14 10:09	
Chloroform	ug/L	ND	1.0	08/05/14 10:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	N2
Ethylbenzene	ug/L	ND	1.0	08/05/14 10:09	
Methylene chloride	ug/L	ND	1.0	08/05/14 10:09	
Tetrachloroethene	ug/L	ND	1.0	08/05/14 10:09	
Toluene	ug/L	ND	1.0	08/05/14 10:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Trichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Vinyl chloride	ug/L	ND	1.0	08/05/14 10:09	
Xylene (Total)	ug/L	ND	3.0	08/05/14 10:09	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/05/14 10:09	
4-Bromofluorobenzene (S)	%	99	80-120	08/05/14 10:09	
Toluene-d8 (S)	%	96	80-120	08/05/14 10:09	

LABORATORY CONTROL SAMPLE: 1420413

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	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	17.6	88	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	97	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.5	92	59-131	N2
Acetone	ug/L	100	77.6	78	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

LABORATORY CONTROL SAMPLE: 1420413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.3	97	68-125	
Bromoform	ug/L	20	21.1	106	65-127	
Bromomethane	ug/L	20	12.9	64	13-157	
Carbon tetrachloride	ug/L	20	20.1	100	70-131	
Chloroethane	ug/L	20	16.0	80	47-133	
Chloroform	ug/L	20	18.3	92	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	15.2	76	64-129	
Tetrachloroethene	ug/L	20	20.6	103	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.6	88	66-129	
Trichloroethene	ug/L	20	18.9	94	71-123	
Vinyl chloride	ug/L	20	13.3	66	43-129	
Xylene (Total)	ug/L	60	61.4	102	75-121	N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3530	88	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3450	86	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3330	83	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3130	78	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3430	84	33-140	
2-Butanone (MEK)	ug/L	24800	20000	35800	55	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	63300	20000	69500	31	10-160	N2
Benzene	ug/L	ND	4000	3320	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3270	82	35-142	
Bromoform	ug/L	ND	4000	3340	83	45-142	
Bromomethane	ug/L	ND	4000	2130	53	10-158	
Carbon tetrachloride	ug/L	ND	4000	3550	89	70-140	
Chloroethane	ug/L	ND	4000	2770	69	19-152	
Chloroform	ug/L	ND	4000	3200	80	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3290	82	34-147	N2
Ethylbenzene	ug/L	ND	4000	3620	91	40-142	
Methylene chloride	ug/L	ND	4000	2740	68	31-144	
Tetrachloroethene	ug/L	ND	4000	3710	93	64-148	
Toluene	ug/L	ND	4000	3270	81	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3210	80	54-151	
Trichloroethene	ug/L	ND	4000	3480	87	71-149	
Vinyl chloride	ug/L	ND	4000	2460	61	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	10800	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: OEXT/45364
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174619001

METHOD BLANK: 1418696
Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/01/14 15:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/01/14 15:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	08/01/14 15:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	08/01/14 15:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/01/14 15:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/01/14 15:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/01/14 15:31	
Hexachloroethane	ug/L	ND	5.0	08/01/14 15:31	
Naphthalene	ug/L	ND	5.0	08/01/14 15:31	
Nitrobenzene	ug/L	ND	5.0	08/01/14 15:31	
Pentachlorophenol	ug/L	ND	5.0	08/01/14 15:31	
Phenol	ug/L	ND	5.0	08/01/14 15:31	
2,4,6-Tribromophenol (S)	%	79	39-120	08/01/14 15:31	
2-Fluorobiphenyl (S)	%	74	39-120	08/01/14 15:31	
2-Fluorophenol (S)	%	45	17-120	08/01/14 15:31	
Nitrobenzene-d5 (S)	%	74	33-120	08/01/14 15:31	
Phenol-d6 (S)	%	29	11-120	08/01/14 15:31	
Terphenyl-d14 (S)	%	80	45-120	08/01/14 15:31	

LABORATORY CONTROL SAMPLE: 1418697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.9	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	37.0	74	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.4	59	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	38.8	78	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.0	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.1	65	24-120	
Hexachloroethane	ug/L	50	31.2	62	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	36.1	72	48-120	
Pentachlorophenol	ug/L	50	38.9	78	47-120	
Phenol	ug/L	50	16.4	33	16-112	
2,4,6-Tribromophenol (S)	%			83	39-120	
2-Fluorobiphenyl (S)	%			72	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

MATRIX SPIKE SAMPLE: 1418698

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3530	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4140	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3730	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4320	5000	6790	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3690J	74	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3260	65	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6690	67	11-120	
Hexachloroethane	ug/L	ND	5000	3070	61	40-113	
Naphthalene	ug/L	ND	5000	3790	71	45-120	
Nitrobenzene	ug/L	ND	5000	3540	71	38-120	
Pentachlorophenol	ug/L	ND	5000	4410	88	43-135	
Phenol	ug/L	7550	5000	7980	9	13-112	M1
2,4,6-Tribromophenol (S)	%				89	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				80	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WET/49392 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174619001

METHOD BLANK: 1420115 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/05/14 08:13	

LABORATORY CONTROL SAMPLE: 1420116

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: 1420117

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	336	148	667	224	78-114	M1

SAMPLE DUPLICATE: 1420118

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	543	617	13	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WET/49393 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174619001

METHOD BLANK: 1420142 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/05/14 08:26	

LABORATORY CONTROL SAMPLE: 1420143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1420144

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	26.4	74.1	45.9	26	64-132	M1

SAMPLE DUPLICATE: 1420145

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.4	10.4	47	34	D6

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WET/49323 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174619001

METHOD BLANK: 1417884 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	07/30/14 11:06	

SAMPLE DUPLICATE: 1417885

Parameter	Units	60174562001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	70.0	55.0	24	10	D6

SAMPLE DUPLICATE: 1417886

Parameter	Units	60174571007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174619001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WET/49330 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174619001

METHOD BLANK: 1418178 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/04/14 16:39	

LABORATORY CONTROL SAMPLE: 1418179

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	196	99	85-115	

SAMPLE DUPLICATE: 1418180

Parameter	Units	60174639001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	538	579	7	17	

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REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WETA/30428 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174619001

METHOD BLANK: 1417799 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	07/30/14 10:55	

LABORATORY CONTROL SAMPLE: 1417800

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

MATRIX SPIKE SAMPLE: 1417801

Parameter	Units	60174571001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.4	122	90-110	M1

MATRIX SPIKE SAMPLE: 1417802

Parameter	Units	60174571005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.2	112	90-110	M1

SAMPLE DUPLICATE: 1417803

Parameter	Units	60174584002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.1	3.2	1	18	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

QC Batch: WETA/30461 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174619001

METHOD BLANK: 1419023 Matrix: Water
Associated Lab Samples: 60174619001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/04/14 11:27	

LABORATORY CONTROL SAMPLE: 1419024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.7	93	90-110	

MATRIX SPIKE SAMPLE: 1419025

Parameter	Units	60174405002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	78.9	50	130	101	90-110	

MATRIX SPIKE SAMPLE: 1419027

Parameter	Units	60174595002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6380	5000	11900	111	90-110	M1

SAMPLE DUPLICATE: 1419026

Parameter	Units	60174405003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	53.7	55.5	3	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-374
Pace Project No.: 60174619

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174619001	**316-374**	EPA 200.7	MPRP/28299	EPA 200.7	ICP/21379
60174619001	**316-374**	EPA 200.7	MPRP/28322	EPA 200.7	ICP/21386
60174619001	**316-374**	EPA 245.1	MERP/8662	EPA 245.1	MERC/8614
60174619001	**316-374**	EPA 245.1	MERP/8661	EPA 245.1	MERC/8613
60174619001	**316-374**	EPA 625	OEXT/45364	EPA 625	MSSV/14542
60174619001	**316-374**	EPA 624 Low	MSV/63359		
60174619002	**TRIP BLANK**	EPA 624 Low	MSV/63359		
60174619001	**316-374**	EPA 1664A	WET/49392		
60174619001	**316-374**	EPA 1664A	WET/49393		
60174619001	**316-374**	SM 2540D	WET/49323		
60174619001	**316-374**	SM 4500-H+B	WET/49388		
60174619001	**316-374**	SM 5210B	WET/49330	SM 5210B	WET/49433
60174619001	**316-374**	EPA 350.1	WETA/30428		
60174619001	**316-374**	EPA 410.4	WETA/30461		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60174619

60174619

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.2

Date and initials of person examining contents: PW 7/30/14

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 mL of HNO3 to BP3N. 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. 4.0/1.5
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed PW Lot # of added preservative 12513/12524
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cover		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: MM Date: 7/31/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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)	60174619
1	~~3BP3A6~~ 316-374 1BP3U 2AG4U	OT	G	7/29/14	0907	—	—		~~15~~	10	4	1	0	1BP3S					X	X	X	X	X	X	X	X	X	X	1BP3N	4-0 2BP2U 5D6AU 2D/AU
2	TRIP BLANK	—	—	—	—	—	—		2	2															X					
3																														
4																														
5																														
6																														
7																														
8																														
9																														
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

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	FED	7-29-14	1320	Margaret Hood	7/29/14	1320				
SITE ADDRESS: BRIDGETON LF				PRPASS	7/30/14	0350	4-2	Y	X	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:		DATE Signed: 7/29/14				

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

August 07, 2014

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

RE: Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on July 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: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
Dana B. Pasi, Barr Engineering Co.
Brian Power, Republic Services
Margaret Treanor, Barr Engineering Company

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

CERTIFICATIONS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174724001	**316-375**	Water	07/30/14 08:34	07/31/14 01:55
60174724002	**TRIP BLANK**	Water	07/30/14 08:34	07/31/14 01:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174724001	**316-375**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	NDL	1
		SM 4500-H+B	JML	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174724002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Date: August 07, 2014

All five vials received for method EPA 624 for sample 316-375 contained head space presence greater than 6mm. As per historical instructions, the laboratory analyses is conducted with the results as qualified for head space presence.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Sample: 316-375 **Lab ID: 60174724001** Collected: 07/30/14 08:34 Received: 07/31/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**2600**	ug/L	750	2	08/01/14 11:00	08/05/14 14:51	7429-90-5	
Antimony	ND	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:48	7440-36-0	
Arsenic	**762**	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:48	7440-38-2	
Beryllium	ND	ug/L	5.0	1	08/01/14 11:00	08/05/14 14:48	7440-41-7	
Cadmium	ND	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:48	7440-43-9	
Chromium	**167**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:48	7440-47-3	
Cobalt	**28.9**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:48	7440-48-4	
Copper	ND	ug/L	50.0	1	08/01/14 11:00	08/05/14 14:48	7440-50-8	
Iron	**362000**	ug/L	250	1	08/01/14 11:00	08/05/14 14:48	7439-89-6	
Lead	**50.8**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:48	7439-92-1	
Nickel	**103**	ug/L	25.0	1	08/01/14 11:00	08/05/14 14:48	7440-02-0	
Selenium	ND	ug/L	75.0	1	08/01/14 11:00	08/05/14 14:48	7782-49-2	
Silver	ND	ug/L	35.0	1	08/01/14 11:00	08/05/14 14:48	7440-22-4	
Thallium	ND	ug/L	100	1	08/01/14 11:00	08/05/14 14:48	7440-28-0	
Zinc	**3990**	ug/L	500	2	08/01/14 11:00	08/05/14 14:51	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**833**	ug/L	750	2	08/01/14 17:10	08/05/14 14:16	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	08/01/14 17:10	08/05/14 14:09	7440-36-0	
Arsenic, Dissolved	**720**	ug/L	50.0	1	08/01/14 17:10	08/05/14 14:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	08/01/14 17:10	08/05/14 14:09	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	08/01/14 17:10	08/05/14 14:09	7440-43-9	
Chromium, Dissolved	**141**	ug/L	25.0	1	08/01/14 17:10	08/05/14 14:09	7440-47-3	
Cobalt, Dissolved	**26.1**	ug/L	25.0	1	08/01/14 17:10	08/05/14 14:09	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	08/01/14 17:10	08/05/14 14:09	7440-50-8	
Iron, Dissolved	**237000**	ug/L	250	1	08/01/14 17:10	08/05/14 14:09	7439-89-6	
Lead, Dissolved	**34.8**	ug/L	25.0	1	08/01/14 17:10	08/05/14 14:09	7439-92-1	
Nickel, Dissolved	**88.2**	ug/L	25.0	1	08/01/14 17:10	08/05/14 14:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	08/01/14 17:10	08/05/14 14:09	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	08/01/14 17:10	08/05/14 14:09	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	08/01/14 17:10	08/05/14 14:09	7440-28-0	
Zinc, Dissolved	**3120**	ug/L	500	2	08/01/14 17:10	08/05/14 14:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	08/05/14 15:45	08/06/14 10:33	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	08/05/14 15:45	08/06/14 10:07	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	07/31/14 00:00	08/01/14 18:21	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	07/31/14 00:00	08/01/14 18:21	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4540**	ug/L	4000	2	07/31/14 00:00	08/01/14 18:21		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Sample: 316-375 **Lab ID: 60174724001** Collected: 07/30/14 08:34 Received: 07/31/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	87-86-5	
Phenol	**6710**	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	07/31/14 00:00	08/01/14 18:21	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	97	%	33-120	2	07/31/14 00:00	08/01/14 18:21	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	07/31/14 00:00	08/01/14 18:21	321-60-8	
Terphenyl-d14 (S)	112	%	45-120	2	07/31/14 00:00	08/01/14 18:21	1718-51-0	
Phenol-d6 (S)	28	%	11-120	2	07/31/14 00:00	08/01/14 18:21	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	07/31/14 00:00	08/01/14 18:21	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	07/31/14 00:00	08/01/14 18:21	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**72400**	ug/L	2000	200		08/05/14 13:31	67-64-1	N2
Benzene	ND	ug/L	200	200		08/05/14 13:31	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/05/14 13:31	75-27-4	
Bromoform	ND	ug/L	200	200		08/05/14 13:31	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/05/14 13:31	74-83-9	
2-Butanone (MEK)	**27600**	ug/L	2000	200		08/05/14 13:31	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		08/05/14 13:31	56-23-5	
Chloroethane	ND	ug/L	200	200		08/05/14 13:31	75-00-3	
Chloroform	ND	ug/L	200	200		08/05/14 13:31	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/05/14 13:31	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/05/14 13:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 13:31	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 13:31	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/05/14 13:31	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/05/14 13:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		08/05/14 13:31	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/05/14 13:31	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		08/05/14 13:31	127-18-4	
Toluene	ND	ug/L	200	200		08/05/14 13:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/05/14 13:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/05/14 13:31	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/05/14 13:31	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/05/14 13:31	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/05/14 13:31	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		08/05/14 13:31	460-00-4	HS
Toluene-d8 (S)	96	%	80-120	200		08/05/14 13:31	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		08/05/14 13:31	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/05/14 13:31		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**543**	mg/L	5.0	1		08/05/14 08:21		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Sample: 316-375 **Lab ID: 60174724001** Collected: 07/30/14 08:34 Received: 07/31/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.4**	mg/L	5.0	1		08/05/14 08:27		D6
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2620**	mg/L	5.0	1		08/01/14 10:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**21300**	mg/L	2.0	1	07/31/14 14:46	08/05/14 10:44		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**444**	mg/L	20.0	200		08/05/14 11:01	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**41700**	mg/L	5000	500		08/04/14 11:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Sample: TRIP BLANK **Lab ID: 60174724002** Collected: 07/30/14 08:34 Received: 07/31/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		08/05/14 11:58	67-64-1	N2
Benzene	ND	ug/L	1.0	1		08/05/14 11:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/05/14 11:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/05/14 11:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/05/14 11:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		08/05/14 11:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		08/05/14 11:58	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/05/14 11:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/05/14 11:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/05/14 11:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/05/14 11:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 11:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 11:58	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/05/14 11:58	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/05/14 11:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		08/05/14 11:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/05/14 11:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		08/05/14 11:58	127-18-4	
Toluene	ND	ug/L	1.0	1		08/05/14 11:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/05/14 11:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/05/14 11:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/05/14 11:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/05/14 11:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/05/14 11:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		08/05/14 11:58	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		08/05/14 11:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		08/05/14 11:58	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/05/14 11:58		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: MERP/8662
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174724001

METHOD BLANK: 1420726 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/06/14 10:09	

LABORATORY CONTROL SAMPLE: 1420727

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: 1420728 1420729

Parameter	Units	60174619001 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	121	117	81	78	70-130	3	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: MERP/8661
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174724001

METHOD BLANK: 1420722 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/06/14 09:56	

LABORATORY CONTROL SAMPLE: 1420723

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420724 1420725

Parameter	Units	60174619001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	135	134	90	89	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: MPRP/28299
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174724001

METHOD BLANK: 1418528
Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/05/14 14:25	
Antimony	ug/L	ND	10.0	08/05/14 14:25	
Arsenic	ug/L	ND	10.0	08/05/14 14:25	
Beryllium	ug/L	ND	1.0	08/05/14 14:25	
Cadmium	ug/L	ND	5.0	08/05/14 14:25	
Chromium	ug/L	ND	5.0	08/05/14 14:25	
Cobalt	ug/L	ND	5.0	08/05/14 14:25	
Copper	ug/L	ND	10.0	08/05/14 14:25	
Iron	ug/L	ND	50.0	08/05/14 14:25	
Lead	ug/L	ND	5.0	08/05/14 14:25	
Nickel	ug/L	ND	5.0	08/05/14 14:25	
Selenium	ug/L	ND	15.0	08/05/14 14:25	
Silver	ug/L	ND	7.0	08/05/14 14:25	
Thallium	ug/L	ND	20.0	08/05/14 14:25	
Zinc	ug/L	ND	50.0	08/05/14 14:25	

LABORATORY CONTROL SAMPLE: 1418529

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	8800	88	85-115	
Antimony	ug/L	1000	901	90	85-115	
Arsenic	ug/L	1000	868	87	85-115	
Beryllium	ug/L	1000	904	90	85-115	
Cadmium	ug/L	1000	890	89	85-115	
Chromium	ug/L	1000	907	91	85-115	
Cobalt	ug/L	1000	913	91	85-115	
Copper	ug/L	1000	900	90	85-115	
Iron	ug/L	10000	9270	93	85-115	
Lead	ug/L	1000	931	93	85-115	
Nickel	ug/L	1000	932	93	85-115	
Selenium	ug/L	1000	874	87	85-115	
Silver	ug/L	500	444	89	85-115	
Thallium	ug/L	1000	922	92	85-115	
Zinc	ug/L	1000	893	89	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1418530 1418531

Parameter	Units	60174619001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	18100	50000	50000	83300	81000	130	126	70-130	3	8	
Antimony	ug/L	ND	5000	5000	5070	5230	101	104	70-130	3	7	
Arsenic	ug/L	868	5000	5000	6180	6410	106	111	70-130	4	10	
Beryllium	ug/L	ND	5000	5000	4680	4830	94	97	70-130	3	7	
Cadmium	ug/L	ND	5000	5000	5060	5210	101	104	70-130	3	10	
Chromium	ug/L	226	5000	5000	4900	5060	94	97	70-130	3	10	
Cobalt	ug/L	38.8	5000	5000	4640	4780	92	95	70-130	3	6	
Copper	ug/L	50.6	5000	5000	5280	5390	105	107	70-130	2	11	
Iron	ug/L	681000	50000	50000	742000	792000	123	222	70-130	6	10	M1
Lead	ug/L	131	5000	5000	4560	4700	89	91	70-130	3	10	
Nickel	ug/L	127	5000	5000	4740	4890	92	95	70-130	3	10	
Selenium	ug/L	ND	5000	5000	5680	5840	112	116	70-130	3	10	
Silver	ug/L	ND	2500	2500	2530	2610	101	104	70-130	3	10	
Thallium	ug/L	ND	5000	5000	4030	4160	81	83	70-130	3	6	
Zinc	ug/L	4820	5000	5000	9630	9610	96	96	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: MPRP/28322
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174724001

METHOD BLANK: 1419605
Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/05/14 13:49	
Antimony, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Arsenic, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Beryllium, Dissolved	ug/L	ND	1.0	08/05/14 13:49	
Cadmium, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Chromium, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Cobalt, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Copper, Dissolved	ug/L	ND	10.0	08/05/14 13:49	
Iron, Dissolved	ug/L	ND	50.0	08/05/14 13:49	
Lead, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Nickel, Dissolved	ug/L	ND	5.0	08/05/14 13:49	
Selenium, Dissolved	ug/L	ND	15.0	08/05/14 13:49	
Silver, Dissolved	ug/L	ND	7.0	08/05/14 13:49	
Thallium, Dissolved	ug/L	ND	20.0	08/05/14 13:49	
Zinc, Dissolved	ug/L	ND	50.0	08/05/14 13:49	

LABORATORY CONTROL SAMPLE: 1419606

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	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	985	98	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	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1020	102	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	499	100	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	991	99	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1419607 1419608

Parameter	Units	60174619001 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	691	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5400	105	107	70-130	2	7	
Arsenic, Dissolved	ug/L	604	5000	5000	5960	5960	107	107	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4900	4820	98	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5220	5280	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	128	5000	5000	5020	4840	98	94	70-130	4	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5400	5420	108	108	70-130	0	11	
Iron, Dissolved	ug/L	205000	50000	50000	248000	235000	86	61	70-130	5	10	M1
Lead, Dissolved	ug/L	28.7	5000	5000	4690	4740	93	94	70-130	1	10	
Nickel, Dissolved	ug/L	80.0	5000	5000	4880	4910	96	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5760	112	114	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2630	2580	105	103	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4340	4420	87	88	70-130	2	6	
Zinc, Dissolved	ug/L	2800	5000	5000	7280	7010	90	84	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: MSV/63359
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174724001, 60174724002

METHOD BLANK: 1420412
Matrix: Water
Associated Lab Samples: 60174724001, 60174724002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/05/14 10:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,2-Dichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/05/14 10:09	
2-Butanone (MEK)	ug/L	ND	10.0	08/05/14 10:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	08/05/14 10:09	N2
Acetone	ug/L	ND	10.0	08/05/14 10:09	N2
Benzene	ug/L	ND	1.0	08/05/14 10:09	
Bromodichloromethane	ug/L	ND	1.0	08/05/14 10:09	
Bromoform	ug/L	ND	1.0	08/05/14 10:09	
Bromomethane	ug/L	ND	5.0	08/05/14 10:09	
Carbon tetrachloride	ug/L	ND	1.0	08/05/14 10:09	
Chloroethane	ug/L	ND	1.0	08/05/14 10:09	
Chloroform	ug/L	ND	1.0	08/05/14 10:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	N2
Ethylbenzene	ug/L	ND	1.0	08/05/14 10:09	
Methylene chloride	ug/L	ND	1.0	08/05/14 10:09	
Tetrachloroethene	ug/L	ND	1.0	08/05/14 10:09	
Toluene	ug/L	ND	1.0	08/05/14 10:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Trichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Vinyl chloride	ug/L	ND	1.0	08/05/14 10:09	
Xylene (Total)	ug/L	ND	3.0	08/05/14 10:09	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/05/14 10:09	
4-Bromofluorobenzene (S)	%	99	80-120	08/05/14 10:09	
Toluene-d8 (S)	%	96	80-120	08/05/14 10:09	

LABORATORY CONTROL SAMPLE: 1420413

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	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	17.6	88	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	97	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.5	92	59-131	N2
Acetone	ug/L	100	77.6	78	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

LABORATORY CONTROL SAMPLE: 1420413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.3	97	68-125	
Bromoform	ug/L	20	21.1	106	65-127	
Bromomethane	ug/L	20	12.9	64	13-157	
Carbon tetrachloride	ug/L	20	20.1	100	70-131	
Chloroethane	ug/L	20	16.0	80	47-133	
Chloroform	ug/L	20	18.3	92	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	15.2	76	64-129	
Tetrachloroethene	ug/L	20	20.6	103	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.6	88	66-129	
Trichloroethene	ug/L	20	18.9	94	71-123	
Vinyl chloride	ug/L	20	13.3	66	43-129	
Xylene (Total)	ug/L	60	61.4	102	75-121	N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3530	88	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3450	86	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3330	83	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3130	78	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3430	84	33-140	
2-Butanone (MEK)	ug/L	24800	20000	35800	55	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	63300	20000	69500	31	10-160	N2
Benzene	ug/L	ND	4000	3320	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3270	82	35-142	
Bromoform	ug/L	ND	4000	3340	83	45-142	
Bromomethane	ug/L	ND	4000	2130	53	10-158	
Carbon tetrachloride	ug/L	ND	4000	3550	89	70-140	
Chloroethane	ug/L	ND	4000	2770	69	19-152	
Chloroform	ug/L	ND	4000	3200	80	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3290	82	34-147	N2
Ethylbenzene	ug/L	ND	4000	3620	91	40-142	
Methylene chloride	ug/L	ND	4000	2740	68	31-144	
Tetrachloroethene	ug/L	ND	4000	3710	93	64-148	
Toluene	ug/L	ND	4000	3270	81	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3210	80	54-151	
Trichloroethene	ug/L	ND	4000	3480	87	71-149	
Vinyl chloride	ug/L	ND	4000	2460	61	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	10800	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: OEXT/45364
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60174724001

METHOD BLANK: 1418696
Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/01/14 15:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/01/14 15:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	08/01/14 15:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	08/01/14 15:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/01/14 15:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/01/14 15:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/01/14 15:31	
Hexachloroethane	ug/L	ND	5.0	08/01/14 15:31	
Naphthalene	ug/L	ND	5.0	08/01/14 15:31	
Nitrobenzene	ug/L	ND	5.0	08/01/14 15:31	
Pentachlorophenol	ug/L	ND	5.0	08/01/14 15:31	
Phenol	ug/L	ND	5.0	08/01/14 15:31	
2,4,6-Tribromophenol (S)	%	79	39-120	08/01/14 15:31	
2-Fluorobiphenyl (S)	%	74	39-120	08/01/14 15:31	
2-Fluorophenol (S)	%	45	17-120	08/01/14 15:31	
Nitrobenzene-d5 (S)	%	74	33-120	08/01/14 15:31	
Phenol-d6 (S)	%	29	11-120	08/01/14 15:31	
Terphenyl-d14 (S)	%	80	45-120	08/01/14 15:31	

LABORATORY CONTROL SAMPLE: 1418697

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.9	70	46-120	
2,4,6-Trichlorophenol	ug/L	50	37.0	74	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	29.4	59	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	38.8	78	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.0	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.1	65	24-120	
Hexachloroethane	ug/L	50	31.2	62	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	36.1	72	48-120	
Pentachlorophenol	ug/L	50	38.9	78	47-120	
Phenol	ug/L	50	16.4	33	16-112	
2,4,6-Tribromophenol (S)	%			83	39-120	
2-Fluorobiphenyl (S)	%			72	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

MATRIX SPIKE SAMPLE: 1418698

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3530	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4140	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3730	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4320	5000	6790	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3690J	74	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3260	65	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6690	67	11-120	
Hexachloroethane	ug/L	ND	5000	3070	61	40-113	
Naphthalene	ug/L	ND	5000	3790	71	45-120	
Nitrobenzene	ug/L	ND	5000	3540	71	38-120	
Pentachlorophenol	ug/L	ND	5000	4410	88	43-135	
Phenol	ug/L	7550	5000	7980	9	13-112	M1
2,4,6-Tribromophenol (S)	%				89	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				80	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WET/49392 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174724001

METHOD BLANK: 1420115 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/05/14 08:13	

LABORATORY CONTROL SAMPLE: 1420116

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: 1420117

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	336	148	667	224	78-114	M1

SAMPLE DUPLICATE: 1420118

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	543	617	13	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WET/49393 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174724001

METHOD BLANK: 1420142 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/05/14 08:26	

LABORATORY CONTROL SAMPLE: 1420143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1420144

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	26.4	74.1	45.9	26	64-132	M1

SAMPLE DUPLICATE: 1420145

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.4	10.4	47	34	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WET/49365 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174724001

METHOD BLANK: 1419197 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/01/14 10:03	

SAMPLE DUPLICATE: 1419198

Parameter	Units	60174711002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	10	18	10	D6

SAMPLE DUPLICATE: 1419199

Parameter	Units	60174725004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	8.0	32	10	D6

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174724001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WET/49349
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174724001

METHOD BLANK: 1418657 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/05/14 10:25	

LABORATORY CONTROL SAMPLE: 1418658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	199	101	85-115	

SAMPLE DUPLICATE: 1418659

Parameter	Units	60174733001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3.6	3.8	6	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WETA/30494 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174724001

METHOD BLANK: 1420383 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/05/14 10:32	

LABORATORY CONTROL SAMPLE: 1420384

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

MATRIX SPIKE SAMPLE: 1420385

Parameter	Units	60174384002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	111	90-110	M1

MATRIX SPIKE SAMPLE: 1420386

Parameter	Units	60174613002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	33.0	20	48.9	79	90-110	M1

SAMPLE DUPLICATE: 1420387

Parameter	Units	60174614002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	17.2	16.8	2	18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

QC Batch: WETA/30461 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174724001

METHOD BLANK: 1419023 Matrix: Water
Associated Lab Samples: 60174724001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/04/14 11:27	

LABORATORY CONTROL SAMPLE: 1419024

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.7	93	90-110	

MATRIX SPIKE SAMPLE: 1419025

Parameter	Units	60174405002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	78.9	50	130	101	90-110	

MATRIX SPIKE SAMPLE: 1419027

Parameter	Units	60174595002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	6380	5000	11900	111	90-110	M1

SAMPLE DUPLICATE: 1419026

Parameter	Units	60174405003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	53.7	55.5	3	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-375
Pace Project No.: 60174724

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174724001	**316-375**	EPA 200.7	MPRP/28299	EPA 200.7	ICP/21379
60174724001	**316-375**	EPA 200.7	MPRP/28322	EPA 200.7	ICP/21386
60174724001	**316-375**	EPA 245.1	MERP/8662	EPA 245.1	MERC/8614
60174724001	**316-375**	EPA 245.1	MERP/8661	EPA 245.1	MERC/8613
60174724001	**316-375**	EPA 625	OEXT/45364	EPA 625	MSSV/14542
60174724001	**316-375**	EPA 624 Low	MSV/63359		
60174724002	**TRIP BLANK**	EPA 624 Low	MSV/63359		
60174724001	**316-375**	EPA 1664A	WET/49392		
60174724001	**316-375**	EPA 1664A	WET/49393		
60174724001	**316-375**	SM 2540D	WET/49365		
60174724001	**316-375**	SM 4500-H+B	WET/49388		
60174724001	**316-375**	SM 5210B	WET/49349	SM 5210B	WET/49411
60174724001	**316-375**	EPA 350.1	WETA/30494		
60174724001	**316-375**	EPA 410.4	WETA/30461		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60174724

60174724

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AH 7/31

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	* BOD initial pH 4.0 added 3mL H_2SO_4 final pH 2.5 BP3N initial pH 5.0 added 0.5mL HNO_3 final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative 18513-2-5-2, 12524-25
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	Safe DG9U headspace
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/1/14

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

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other
1	2(BP2U) 1(BP3U) 316-375 ~~HA~~ act 7/31 1(BP3S) 1(BP3N) 4.0/2.5 5.0/4.0	OT	G	7/30/14	0854	—	—		~~14~~ 15	10	4	1	0				
2	TRIP BLANK 2(DG9U)	—	—	—		—	—		2	2							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Requested Analysis Filtered (Y/N)

ITEM#	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60174724
1		X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 3(AG3S) 2(AG4U) W1
2									X						W2
3–12															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FSI	7-30-14	1300	[signature]	7/30/14	1300				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	7/31	0155	1.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/30/14

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

August 08, 2014

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

RE: Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 01, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

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
Utah Certification #: KS00021

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60174834001	**316-376**	Water	07/31/14 08:56	08/01/14 01:25
60174834002	**TRIP BLANK**	Water	07/31/14 08:56	08/01/14 01:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60174834001	**316-376**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	JML	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60174834002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Date: August 08, 2014

All five vials received for method EPA 624 for sample 316-375 contained head space presence greater than 6mm. As per historical instructions, the laboratory analyses is conducted with the results as qualified for head space presence.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Sample: 316-376 **Lab ID: 60174834001** Collected: 07/31/14 08:56 Received: 08/01/14 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	**10500**	ug/L	750	2	08/05/14 16:20	08/07/14 11:54	7429-90-5	
Antimony	ND	ug/L	100	2	08/05/14 16:20	08/07/14 11:54	7440-36-0	D3
Arsenic	**930**	ug/L	50.0	1	08/05/14 16:20	08/07/14 11:50	7440-38-2	
Beryllium	ND	ug/L	5.0	1	08/05/14 16:20	08/07/14 11:50	7440-41-7	
Cadmium	ND	ug/L	25.0	1	08/05/14 16:20	08/07/14 11:50	7440-43-9	
Chromium	**189**	ug/L	25.0	1	08/05/14 16:20	08/07/14 11:50	7440-47-3	
Cobalt	**34.4**	ug/L	25.0	1	08/05/14 16:20	08/07/14 11:50	7440-48-4	
Copper	ND	ug/L	50.0	1	08/05/14 16:20	08/07/14 11:50	7440-50-8	
Iron	**680000**	ug/L	250	1	08/05/14 16:20	08/07/14 11:50	7439-89-6	M1
Lead	**133**	ug/L	25.0	1	08/05/14 16:20	08/07/14 11:50	7439-92-1	
Nickel	**124**	ug/L	25.0	1	08/05/14 16:20	08/07/14 11:50	7440-02-0	
Selenium	ND	ug/L	150	2	08/05/14 16:20	08/07/14 11:54	7782-49-2	D3
Silver	ND	ug/L	35.0	1	08/05/14 16:20	08/07/14 11:50	7440-22-4	
Thallium	ND	ug/L	100	1	08/05/14 16:20	08/07/14 11:50	7440-28-0	
Zinc	**5240**	ug/L	500	2	08/05/14 16:20	08/07/14 11:54	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1110**	ug/L	375	1	08/06/14 11:40	08/07/14 12:54	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	08/06/14 11:40	08/07/14 12:54	7440-36-0	
Arsenic, Dissolved	**604**	ug/L	50.0	1	08/06/14 11:40	08/07/14 12:54	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	08/06/14 11:40	08/07/14 12:54	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	08/06/14 11:40	08/07/14 12:54	7440-43-9	
Chromium, Dissolved	**94.2**	ug/L	25.0	1	08/06/14 11:40	08/07/14 12:54	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	08/06/14 11:40	08/07/14 12:54	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	08/06/14 11:40	08/07/14 12:54	7440-50-8	
Iron, Dissolved	**171000**	ug/L	250	1	08/06/14 11:40	08/07/14 12:54	7439-89-6	
Lead, Dissolved	**37.1**	ug/L	25.0	1	08/06/14 11:40	08/07/14 12:54	7439-92-1	
Nickel, Dissolved	**74.4**	ug/L	25.0	1	08/06/14 11:40	08/07/14 12:54	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	08/06/14 11:40	08/07/14 12:54	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	08/06/14 11:40	08/07/14 12:54	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	08/06/14 11:40	08/07/14 12:54	7440-28-0	
Zinc, Dissolved	**3030**	ug/L	250	1	08/06/14 11:40	08/07/14 12:54	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**17.9**	ug/L	6.0	1	08/06/14 13:15	08/07/14 09:09	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	08/06/14 13:15	08/07/14 09:56	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	08/05/14 00:00	08/06/14 18:51	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	08/05/14 00:00	08/06/14 18:51	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4440**	ug/L	4000	2	08/05/14 00:00	08/06/14 18:51		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Sample: 316-376 **Lab ID: 60174834001** Collected: 07/31/14 08:56 Received: 08/01/14 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	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	87-86-5	
Phenol	**6100**	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	08/05/14 00:00	08/06/14 18:51	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	84	%	33-120	2	08/05/14 00:00	08/06/14 18:51	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	2	08/05/14 00:00	08/06/14 18:51	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	2	08/05/14 00:00	08/06/14 18:51	1718-51-0	
Phenol-d6 (S)	28	%	11-120	2	08/05/14 00:00	08/06/14 18:51	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	08/05/14 00:00	08/06/14 18:51	367-12-4	
2,4,6-Tribromophenol (S)	80	%	39-120	2	08/05/14 00:00	08/06/14 18:51	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**77600**	ug/L	2000	200		08/05/14 13:46	67-64-1	N2
Benzene	ND	ug/L	200	200		08/05/14 13:46	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/05/14 13:46	75-27-4	
Bromoform	ND	ug/L	200	200		08/05/14 13:46	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/05/14 13:46	74-83-9	
2-Butanone (MEK)	**29800**	ug/L	2000	200		08/05/14 13:46	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		08/05/14 13:46	56-23-5	
Chloroethane	ND	ug/L	200	200		08/05/14 13:46	75-00-3	
Chloroform	ND	ug/L	200	200		08/05/14 13:46	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/05/14 13:46	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/05/14 13:46	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 13:46	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/05/14 13:46	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/05/14 13:46	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/05/14 13:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		08/05/14 13:46	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/05/14 13:46	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		08/05/14 13:46	127-18-4	
Toluene	ND	ug/L	200	200		08/05/14 13:46	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/05/14 13:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/05/14 13:46	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/05/14 13:46	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/05/14 13:46	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/05/14 13:46	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		08/05/14 13:46	460-00-4	HS
Toluene-d8 (S)	98	%	80-120	200		08/05/14 13:46	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		08/05/14 13:46	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/05/14 13:46		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**659**	mg/L	5.0	1		08/05/14 08:22		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Sample: 316-376 **Lab ID: 60174834001** Collected: 07/31/14 08:56 Received: 08/01/14 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	**12.7**	mg/L	5.0	1		08/05/14 08:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2660**	mg/L	5.0	1		08/06/14 10:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/04/14 09:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**21900**	mg/L	2.0	1	08/01/14 13:50	08/06/14 15:26		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**455**	mg/L	20.0	200		08/05/14 14:37	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**38500**	mg/L	5000	500		08/05/14 10:21		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Sample: TRIP BLANK **Lab ID: 60174834002** Collected: 07/31/14 08:56 Received: 08/01/14 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		08/05/14 12:13	67-64-1	N2
Benzene	ND	ug/L	1.0	1		08/05/14 12:13	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/05/14 12:13	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/05/14 12:13	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/05/14 12:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		08/05/14 12:13	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		08/05/14 12:13	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/05/14 12:13	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/05/14 12:13	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/05/14 12:13	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/05/14 12:13	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 12:13	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/14 12:13	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/05/14 12:13	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/05/14 12:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		08/05/14 12:13	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/05/14 12:13	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		08/05/14 12:13	127-18-4	
Toluene	ND	ug/L	1.0	1		08/05/14 12:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/05/14 12:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/05/14 12:13	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/05/14 12:13	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/05/14 12:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/05/14 12:13	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		08/05/14 12:13	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/05/14 12:13	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		08/05/14 12:13	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/05/14 12:13		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: MERP/8669
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60174834001

METHOD BLANK: 1421273 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/07/14 08:54	

LABORATORY CONTROL SAMPLE: 1421274

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

MATRIX SPIKE SAMPLE: 1421275

Parameter	Units	60174709001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.5	90	70-130	

MATRIX SPIKE SAMPLE: 1421276

Parameter	Units	60175116001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	9.0	150	134	83	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: MERP/8670
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60174834001

METHOD BLANK: 1421278 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/14 09:52	

LABORATORY CONTROL SAMPLE: 1421279

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1421280 1421281

Parameter	Units	60174834001 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	123	124	82	83	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: MPRP/28340
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60174834001

METHOD BLANK: 1420246
Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/07/14 11:43	
Antimony	ug/L	ND	10.0	08/07/14 11:43	
Arsenic	ug/L	ND	10.0	08/07/14 11:43	
Beryllium	ug/L	ND	1.0	08/07/14 11:43	
Cadmium	ug/L	ND	5.0	08/07/14 11:43	
Chromium	ug/L	ND	5.0	08/07/14 11:43	
Cobalt	ug/L	ND	5.0	08/07/14 11:43	
Copper	ug/L	ND	10.0	08/07/14 11:43	
Iron	ug/L	ND	50.0	08/07/14 11:43	
Lead	ug/L	ND	5.0	08/07/14 11:43	
Nickel	ug/L	ND	5.0	08/07/14 11:43	
Selenium	ug/L	ND	15.0	08/07/14 11:43	
Silver	ug/L	ND	7.0	08/07/14 11:43	
Thallium	ug/L	ND	20.0	08/07/14 11:43	
Zinc	ug/L	ND	50.0	08/07/14 11:43	

LABORATORY CONTROL SAMPLE: 1420247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	998	100	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1030	103	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1020	102	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lead	ug/L	1000	1060	106	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	516	103	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1030	103	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1420248 1420249

Parameter	Units	60174834001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10500	50000	50000	66400	67200	112	113	70-130	1	8	
Antimony	ug/L	ND	5000	5000	4960	5000	99	100	70-130	1	7	
Arsenic	ug/L	930	5000	5000	6250	6110	106	104	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4820	4780	96	96	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5150	5110	103	102	70-130	1	10	
Chromium	ug/L	189	5000	5000	5170	5100	100	98	70-130	1	10	
Cobalt	ug/L	34.4	5000	5000	4920	4870	98	97	70-130	1	6	
Copper	ug/L	ND	5000	5000	5040	4960	101	99	70-130	2	11	
Iron	ug/L	680000	50000	50000	724000	682000	86	3	70-130	6	10	M1
Lead	ug/L	133	5000	5000	4760	4790	92	93	70-130	1	10	
Nickel	ug/L	124	5000	5000	4940	4930	96	96	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5200	5320	104	106	70-130	2	10	
Silver	ug/L	ND	2500	2500	2680	2620	107	105	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4420	4410	88	88	70-130	0	6	
Zinc	ug/L	5240	5000	5000	9820	9710	91	89	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: MPRP/28371
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60174834001

METHOD BLANK: 1421093
Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/07/14 12:51	
Antimony, Dissolved	ug/L	ND	10.0	08/07/14 12:51	
Arsenic, Dissolved	ug/L	ND	10.0	08/07/14 12:51	
Beryllium, Dissolved	ug/L	ND	1.0	08/07/14 12:51	
Cadmium, Dissolved	ug/L	ND	5.0	08/07/14 12:51	
Chromium, Dissolved	ug/L	ND	5.0	08/07/14 12:51	
Cobalt, Dissolved	ug/L	ND	5.0	08/07/14 12:51	
Copper, Dissolved	ug/L	ND	10.0	08/07/14 12:51	
Iron, Dissolved	ug/L	ND	50.0	08/07/14 12:51	
Lead, Dissolved	ug/L	ND	5.0	08/07/14 12:51	
Nickel, Dissolved	ug/L	ND	5.0	08/07/14 12:51	
Selenium, Dissolved	ug/L	ND	15.0	08/07/14 12:51	
Silver, Dissolved	ug/L	ND	7.0	08/07/14 12:51	
Thallium, Dissolved	ug/L	ND	20.0	08/07/14 12:51	
Zinc, Dissolved	ug/L	ND	50.0	08/07/14 12:51	

LABORATORY CONTROL SAMPLE: 1421094

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10100	101	85-115	
Antimony, Dissolved	ug/L	1000	1000	100	85-115	
Arsenic, Dissolved	ug/L	1000	986	99	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1000	100	85-115	
Iron, Dissolved	ug/L	10000	9770	98	85-115	
Lead, Dissolved	ug/L	1000	1060	106	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	505	101	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1421095 1421096

Parameter	Units	60174834001 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	1110	50000	50000	52300	52400	102	103	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5150	5160	102	103	70-130	0	7	
Arsenic, Dissolved	ug/L	604	5000	5000	5920	5840	106	105	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4860	4700	97	94	70-130	3	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5140	5040	103	101	70-130	2	10	
Chromium, Dissolved	ug/L	94.2	5000	5000	5100	5000	100	98	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4940	4830	99	96	70-130	2	6	
Copper, Dissolved	ug/L	ND	5000	5000	5050	4930	101	99	70-130	2	11	
Iron, Dissolved	ug/L	171000	50000	50000	225000	228000	108	115	70-130	2	10	
Lead, Dissolved	ug/L	37.1	5000	5000	4800	4690	95	93	70-130	2	10	
Nickel, Dissolved	ug/L	74.4	5000	5000	4980	4870	98	96	70-130	2	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5450	5450	109	109	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2620	106	105	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4520	4410	90	88	70-130	3	6	
Zinc, Dissolved	ug/L	3030	5000	5000	8170	8380	103	107	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: MSV/63359
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60174834001, 60174834002

METHOD BLANK: 1420412
Matrix: Water
Associated Lab Samples: 60174834001, 60174834002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/05/14 10:09	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,2-Dichloroethane	ug/L	ND	1.0	08/05/14 10:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/05/14 10:09	
2-Butanone (MEK)	ug/L	ND	10.0	08/05/14 10:09	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	08/05/14 10:09	N2
Acetone	ug/L	ND	10.0	08/05/14 10:09	N2
Benzene	ug/L	ND	1.0	08/05/14 10:09	
Bromodichloromethane	ug/L	ND	1.0	08/05/14 10:09	
Bromoform	ug/L	ND	1.0	08/05/14 10:09	
Bromomethane	ug/L	ND	5.0	08/05/14 10:09	
Carbon tetrachloride	ug/L	ND	1.0	08/05/14 10:09	
Chloroethane	ug/L	ND	1.0	08/05/14 10:09	
Chloroform	ug/L	ND	1.0	08/05/14 10:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	N2
Ethylbenzene	ug/L	ND	1.0	08/05/14 10:09	
Methylene chloride	ug/L	ND	1.0	08/05/14 10:09	
Tetrachloroethene	ug/L	ND	1.0	08/05/14 10:09	
Toluene	ug/L	ND	1.0	08/05/14 10:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Trichloroethene	ug/L	ND	1.0	08/05/14 10:09	
Vinyl chloride	ug/L	ND	1.0	08/05/14 10:09	
Xylene (Total)	ug/L	ND	3.0	08/05/14 10:09	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/05/14 10:09	
4-Bromofluorobenzene (S)	%	99	80-120	08/05/14 10:09	
Toluene-d8 (S)	%	96	80-120	08/05/14 10:09	

LABORATORY CONTROL SAMPLE: 1420413

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	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.0	100	67-124	
1,2-Dichloroethane	ug/L	20	17.6	88	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	97	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	92.5	92	59-131	N2
Acetone	ug/L	100	77.6	78	38-134	N2
Benzene	ug/L	20	18.8	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

LABORATORY CONTROL SAMPLE: 1420413

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.3	97	68-125	
Bromoform	ug/L	20	21.1	106	65-127	
Bromomethane	ug/L	20	12.9	64	13-157	
Carbon tetrachloride	ug/L	20	20.1	100	70-131	
Chloroethane	ug/L	20	16.0	80	47-133	
Chloroform	ug/L	20	18.3	92	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.6	93	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	15.2	76	64-129	
Tetrachloroethene	ug/L	20	20.6	103	73-125	
Toluene	ug/L	20	18.3	92	69-126	
trans-1,2-Dichloroethene	ug/L	20	17.6	88	66-129	
Trichloroethene	ug/L	20	18.9	94	71-123	
Vinyl chloride	ug/L	20	13.3	66	43-129	
Xylene (Total)	ug/L	60	61.4	102	75-121	N2
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3530	88	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3450	86	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3330	83	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3130	78	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3430	84	33-140	
2-Butanone (MEK)	ug/L	24800	20000	35800	55	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	63300	20000	69500	31	10-160	N2
Benzene	ug/L	ND	4000	3320	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3270	82	35-142	
Bromoform	ug/L	ND	4000	3340	83	45-142	
Bromomethane	ug/L	ND	4000	2130	53	10-158	
Carbon tetrachloride	ug/L	ND	4000	3550	89	70-140	
Chloroethane	ug/L	ND	4000	2770	69	19-152	
Chloroform	ug/L	ND	4000	3200	80	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3290	82	34-147	N2
Ethylbenzene	ug/L	ND	4000	3620	91	40-142	
Methylene chloride	ug/L	ND	4000	2740	68	31-144	
Tetrachloroethene	ug/L	ND	4000	3710	93	64-148	
Toluene	ug/L	ND	4000	3270	81	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3210	80	54-151	
Trichloroethene	ug/L	ND	4000	3480	87	71-149	
Vinyl chloride	ug/L	ND	4000	2460	61	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

MATRIX SPIKE SAMPLE: 1420414

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	10800	90	37-144	N2
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: OEXT/45426 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60174834001

METHOD BLANK: 1420334 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/06/14 15:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/06/14 15:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	08/06/14 15:44	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	08/06/14 15:44	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/06/14 15:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/06/14 15:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/06/14 15:44	
Hexachloroethane	ug/L	ND	5.0	08/06/14 15:44	
Naphthalene	ug/L	ND	5.0	08/06/14 15:44	
Nitrobenzene	ug/L	ND	5.0	08/06/14 15:44	
Pentachlorophenol	ug/L	ND	5.0	08/06/14 15:44	
Phenol	ug/L	ND	5.0	08/06/14 15:44	
2,4,6-Tribromophenol (S)	%	56	39-120	08/06/14 15:44	
2-Fluorobiphenyl (S)	%	73	39-120	08/06/14 15:44	
2-Fluorophenol (S)	%	37	17-120	08/06/14 15:44	
Nitrobenzene-d5 (S)	%	68	33-120	08/06/14 15:44	
Phenol-d6 (S)	%	24	11-120	08/06/14 15:44	
Terphenyl-d14 (S)	%	77	45-120	08/06/14 15:44	

LABORATORY CONTROL SAMPLE: 1420335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.1	72	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.0	76	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	28.8	58	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	26.6	53	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	38.4	77	40-133	
Hexachloro-1,3-butadiene	ug/L	50	33.7	67	44-116	
Hexachlorocyclopentadiene	ug/L	100	59.2	59	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	39.0	78	48-120	
Nitrobenzene	ug/L	50	38.8	78	48-120	
Pentachlorophenol	ug/L	50	33.9	68	47-120	
Phenol	ug/L	50	15.1	30	16-112	
2,4,6-Tribromophenol (S)	%			69	39-120	
2-Fluorobiphenyl (S)	%			80	39-120	
2-Fluorophenol (S)	%			38	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			82	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

MATRIX SPIKE SAMPLE: 1420336

Parameter	Units	60174709001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	38.9	78	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.4	81	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	30.8	62	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	28.0	56	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	42.2	84	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	36.1	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	71.7	72	11-120	
Hexachloroethane	ug/L	ND	50	38.2	76	40-113	
Naphthalene	ug/L	ND	50	42.0	84	45-120	
Nitrobenzene	ug/L	ND	50	44.7	89	38-120	
Pentachlorophenol	ug/L	ND	50	35.6	71	43-135	
Phenol	ug/L	ND	50	16.0	32	13-112	
2,4,6-Tribromophenol (S)	%				75	39-120	
2-Fluorobiphenyl (S)	%				86	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				81	33-120	
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WET/49392
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60174834001

METHOD BLANK: 1420115 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/05/14 08:13	

LABORATORY CONTROL SAMPLE: 1420116

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: 1420117

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	336	148	667	224	78-114	M1

SAMPLE DUPLICATE: 1420118

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	543	617	13	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WET/49393
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60174834001

METHOD BLANK: 1420142 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/05/14 08:26	

LABORATORY CONTROL SAMPLE: 1420143

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.7	118	64-132	

MATRIX SPIKE SAMPLE: 1420144

Parameter	Units	60174619001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	26.4	74.1	45.9	26	64-132	M1

SAMPLE DUPLICATE: 1420145

Parameter	Units	60174724001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.4	10.4	47	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WET/49431 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60174834001

METHOD BLANK: 1421055 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/14 10:08	

SAMPLE DUPLICATE: 1421056

Parameter	Units	1236848001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1421057

Parameter	Units	60174830009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	35.0	27.0	26	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WET/49388
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60174834001

SAMPLE DUPLICATE: 1420044

Parameter	Units	60174483001 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 316-376
Pace Project No.: 60174834

QC Batch: WET/49374 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60174834001

METHOD BLANK: 1419317 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/06/14 14:17	

LABORATORY CONTROL SAMPLE: 1419318

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

SAMPLE DUPLICATE: 1419319

Parameter	Units	60174787003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27.5	28.5	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WETA/30497
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60174834001

METHOD BLANK: 1420398 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/05/14 14:27	

LABORATORY CONTROL SAMPLE: 1420399

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	103	90-110	

MATRIX SPIKE SAMPLE: 1420400

Parameter	Units	60174837001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	13.3	20	31.3	90	90-110	

MATRIX SPIKE SAMPLE: 1420401

Parameter	Units	60174837004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	10.7	20	28.5	89	90-110	M1

SAMPLE DUPLICATE: 1420402

Parameter	Units	60174840001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.3	6.4	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

QC Batch: WETA/30483 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60174834001

METHOD BLANK: 1420045 Matrix: Water
Associated Lab Samples: 60174834001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/05/14 10:15	

LABORATORY CONTROL SAMPLE: 1420046

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: 1420047

Parameter	Units	60174471010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	52.8	101	90-110	

MATRIX SPIKE SAMPLE: 1420049

Parameter	Units	60174869001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	32.5	50	82.7	100	90-110	

SAMPLE DUPLICATE: 1420048

Parameter	Units	60174471012 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	43.5	45.6	5	25	

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QUALIFIERS

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

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

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).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-376
Pace Project No.: 60174834

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60174834001	**316-376**	EPA 200.7	MPRP/28340	EPA 200.7	ICP/21413
60174834001	**316-376**	EPA 200.7	MPRP/28371	EPA 200.7	ICP/21416
60174834001	**316-376**	EPA 245.1	MERP/8669	EPA 245.1	MERC/8624
60174834001	**316-376**	EPA 245.1	MERP/8670	EPA 245.1	MERC/8625
60174834001	**316-376**	EPA 625	OEXT/45426	EPA 625	MSSV/14575
60174834001	**316-376**	EPA 624 Low	MSV/63359		
60174834002	**TRIP BLANK**	EPA 624 Low	MSV/63359		
60174834001	**316-376**	EPA 1664A	WET/49392		
60174834001	**316-376**	EPA 1664A	WET/49393		
60174834001	**316-376**	SM 2540D	WET/49431		
60174834001	**316-376**	SM 4500-H+B	WET/49388		
60174834001	**316-376**	SM 5210B	WET/49374	SM 5210B	WET/49478
60174834001	**316-376**	EPA 350.1	WETA/30497		
60174834001	**316-376**	EPA 410.4	WETA/30483		

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Sample Condition Upon Receipt

WO# : 60174834

60174834

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

Cooler Temperature: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 8/1/14

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 BP3N. 6.0/4.0 Added 2.0mL of H2SO4 to BP3S. 5.5/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed PV / Lot # of added preservative 12513 12524
Trip Blank present: Pace Trip Blank lot # (if purchased): cover	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 DBAs have headspace. 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: ND

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

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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.	
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	AMY HARGROVE/BRIAN POWER
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	7585 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

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)	60174834	
1	316-376 2AG, 4U, 1BP3U 3AG3S	OT	G	7/31/14	0856	—	—		45	10	4	1	0	1BP3S3					X	X	X	X	X	X	X	X	X	X	X	1BP3U	4-0 2BP2U 5DV4U	W1
2	TRIP BLANK		—	—	—	—	—		2	2																X					2DV4U	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			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Sarah M. Sadie / FEI	7/31/14	1410	Bernadette Haneth	7/31/14	1410				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	8/1/14	0125	4.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 7/31/14