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

September 10, 2014

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

RE: Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 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 316-408
Pace Project No.: 60177026

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 316-408
Pace Project No.: 60177026

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177026001	**316-408**	Water	09/01/14 13:22	09/03/14 03:20
60177026002	**TRIP BLANK**	Water	09/01/14 00:00	09/03/14 03:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177026001	**316-408**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177026002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Sample: 316-408 **Lab ID: 60177026001** Collected: 09/01/14 13:22 Received: 09/03/14 03:20 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	**21800**	ug/L	375	1	09/04/14 11:50	09/10/14 14:02	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:02	7440-36-0	
Arsenic	**970**	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:02	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/04/14 11:50	09/10/14 14:02	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:02	7440-43-9	
Chromium	**259**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:02	7440-47-3	
Cobalt	**46.1**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:02	7440-48-4	
Copper	**58.2**	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:02	7440-50-8	
Iron	**804000**	ug/L	250	1	09/04/14 11:50	09/10/14 14:02	7439-89-6	
Lead	**192**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:02	7439-92-1	
Nickel	**121**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:02	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/04/14 11:50	09/10/14 14:02	7782-49-2	
Silver	ND	ug/L	35.0	1	09/04/14 11:50	09/10/14 14:02	7440-22-4	
Thallium	ND	ug/L	100	1	09/04/14 11:50	09/10/14 14:02	7440-28-0	
Zinc	**6790**	ug/L	250	1	09/04/14 11:50	09/10/14 14:02	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1260**	ug/L	375	1	09/04/14 11:50	09/10/14 15:54	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 15:54	7440-36-0	
Arsenic, Dissolved	**557**	ug/L	50.0	1	09/04/14 11:50	09/10/14 15:54	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/04/14 11:50	09/10/14 15:54	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 15:54	7440-43-9	
Chromium, Dissolved	**124**	ug/L	25.0	1	09/04/14 11:50	09/10/14 15:54	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 15:54	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 15:54	7440-50-8	
Iron, Dissolved	**190000**	ug/L	250	1	09/04/14 11:50	09/10/14 15:54	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 15:54	7439-92-1	
Nickel, Dissolved	**68.4**	ug/L	25.0	1	09/04/14 11:50	09/10/14 15:54	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/04/14 11:50	09/10/14 15:54	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/04/14 11:50	09/10/14 15:54	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/04/14 11:50	09/10/14 15:54	7440-28-0	
Zinc, Dissolved	**3120**	ug/L	250	1	09/04/14 11:50	09/10/14 15:54	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**20.7**	ug/L	6.0	1	09/09/14 10:37	09/09/14 14:56	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	09/03/14 17:33	09/04/14 11:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/05/14 00:00	09/08/14 09:26	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/05/14 00:00	09/08/14 09:26	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4920**	ug/L	4000	2	09/05/14 00:00	09/08/14 09:26		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Sample: 316-408 **Lab ID: 60177026001** Collected: 09/01/14 13:22 Received: 09/03/14 03:20 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	09/05/14 00:00	09/08/14 09:26	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	87-86-5	
Phenol	**7210**	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 09:26	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	09/05/14 00:00	09/08/14 09:26	4165-60-0	
2-Fluorobiphenyl (S)	72	%	39-120	2	09/05/14 00:00	09/08/14 09:26	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	2	09/05/14 00:00	09/08/14 09:26	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	09/05/14 00:00	09/08/14 09:26	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	09/05/14 00:00	09/08/14 09:26	367-12-4	
2,4,6-Tribromophenol (S)	79	%	39-120	2	09/05/14 00:00	09/08/14 09:26	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**98800**	ug/L	2000	200		09/04/14 11:31	67-64-1	M1,N2
Benzene	ND	ug/L	200	200		09/04/14 11:31	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/04/14 11:31	75-27-4	
Bromoform	ND	ug/L	200	200		09/04/14 11:31	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/04/14 11:31	74-83-9	
2-Butanone (MEK)	**46300**	ug/L	2000	200		09/04/14 11:31	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/04/14 11:31	56-23-5	
Chloroethane	ND	ug/L	200	200		09/04/14 11:31	75-00-3	
Chloroform	ND	ug/L	200	200		09/04/14 11:31	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/04/14 11:31	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/04/14 11:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 11:31	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 11:31	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/04/14 11:31	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/04/14 11:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/04/14 11:31	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/04/14 11:31	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/04/14 11:31	127-18-4	
Toluene	ND	ug/L	200	200		09/04/14 11:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/04/14 11:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/04/14 11:31	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/04/14 11:31	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/04/14 11:31	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/04/14 11:31	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		09/04/14 11:31	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		09/04/14 11:31	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		09/04/14 11:31	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/04/14 11:31		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**374**	mg/L	5.0	1		09/08/14 10:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Sample: 316-408 **Lab ID: 60177026001** Collected: 09/01/14 13:22 Received: 09/03/14 03:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		09/08/14 15:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2800**	mg/L	5.0	1		09/05/14 08:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		09/04/14 08:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**21500**	mg/L	2.0	1	09/03/14 13:17	09/08/14 14:16		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**418**	mg/L	20.0	200		09/07/14 13:52	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**39500**	mg/L	5000	500		09/09/14 05:48		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Sample: TRIP BLANK **Lab ID: 60177026002** Collected: 09/01/14 00:00 Received: 09/03/14 03:20 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		09/04/14 11:00	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/04/14 11:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/04/14 11:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/04/14 11:00	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/04/14 11:00	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/04/14 11:00	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/04/14 11:00	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/04/14 11:00	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/04/14 11:00	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/04/14 11:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/04/14 11:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 11:00	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 11:00	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/04/14 11:00	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/04/14 11:00	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/04/14 11:00	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/04/14 11:00	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/04/14 11:00	127-18-4	
Toluene	ND	ug/L	1.0	1		09/04/14 11:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/04/14 11:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/04/14 11:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/04/14 11:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/04/14 11:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/04/14 11:00	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		09/04/14 11:00	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/04/14 11:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		09/04/14 11:00	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/04/14 11:00		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: MERP/8785
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177026001

METHOD BLANK: 1439614 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/09/14 14:40	

LABORATORY CONTROL SAMPLE: 1439615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439616 1439617

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	20.7	150	150	150	131	86	74	70-130	13	20	

MATRIX SPIKE SAMPLE: 1439618

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	23.8	150	132	72	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 316-408
Pace Project No.: 60177026

QC Batch: MERP/8771
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177026001

METHOD BLANK: 1436991 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/04/14 11:33	

LABORATORY CONTROL SAMPLE: 1436992

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1436993 1436994

Parameter	Units	60177026001 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	111	122	74	82	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.

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: MPRP/28800
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177026001

METHOD BLANK: 1437252
Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/10/14 13:58	
Antimony	ug/L	ND	10.0	09/10/14 13:58	
Arsenic	ug/L	ND	10.0	09/10/14 13:58	
Beryllium	ug/L	ND	1.0	09/10/14 13:58	
Cadmium	ug/L	ND	5.0	09/10/14 13:58	
Chromium	ug/L	ND	5.0	09/10/14 13:58	
Cobalt	ug/L	ND	5.0	09/10/14 13:58	
Copper	ug/L	ND	10.0	09/10/14 13:58	
Iron	ug/L	ND	50.0	09/10/14 13:58	
Lead	ug/L	ND	5.0	09/10/14 13:58	
Nickel	ug/L	ND	5.0	09/10/14 13:58	
Selenium	ug/L	ND	15.0	09/10/14 13:58	
Silver	ug/L	ND	7.0	09/10/14 13:58	
Thallium	ug/L	ND	20.0	09/10/14 13:58	
Zinc	ug/L	ND	50.0	09/10/14 13:58	

LABORATORY CONTROL SAMPLE: 1437253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9780	98	85-115	
Antimony	ug/L	1000	985	98	85-115	
Arsenic	ug/L	1000	958	96	85-115	
Beryllium	ug/L	1000	967	97	85-115	
Cadmium	ug/L	1000	971	97	85-115	
Chromium	ug/L	1000	979	98	85-115	
Cobalt	ug/L	1000	979	98	85-115	
Copper	ug/L	1000	953	95	85-115	
Iron	ug/L	10000	9690	97	85-115	
Lead	ug/L	1000	982	98	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	948	95	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	970	97	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 316-408
Pace Project No.: 60177026

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437254 1437255

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	21800	50000	50000	85800	83300	128	123	70-130	3	8	
Antimony	ug/L	ND	5000	5000	5040	5100	100	101	70-130	1	7	
Arsenic	ug/L	970	5000	5000	6080	6150	102	104	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4690	4730	94	95	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5000	5060	100	101	70-130	1	10	
Chromium	ug/L	259	5000	5000	4980	5040	94	96	70-130	1	10	
Cobalt	ug/L	46.1	5000	5000	4700	4770	93	94	70-130	2	6	
Copper	ug/L	58.2	5000	5000	4960	5010	98	99	70-130	1	11	
Iron	ug/L	804000	50000	50000	847000	848000	85	86	70-130	0	10	
Lead	ug/L	192	5000	5000	4750	4770	91	91	70-130	0	10	
Nickel	ug/L	121	5000	5000	4810	4880	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5270	5380	105	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2510	2530	100	101	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4310	4390	86	88	70-130	2	6	
Zinc	ug/L	6790	5000	5000	11300	11200	90	89	70-130	0	11	

MATRIX SPIKE SAMPLE: 1437256

Parameter	Units	60177036001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	8320	50000	63800	111	70-130	
Antimony	ug/L	ND	5000	5080	101	70-130	
Arsenic	ug/L	829	5000	6000	104	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5020	100	70-130	
Chromium	ug/L	202	5000	4980	96	70-130	
Cobalt	ug/L	28.1	5000	4740	94	70-130	
Copper	ug/L	ND	5000	4940	98	70-130	
Iron	ug/L	630000	50000	716000	173	70-130	M1
Lead	ug/L	111	5000	4700	92	70-130	
Nickel	ug/L	90.7	5000	4850	95	70-130	
Selenium	ug/L	ND	5000	5300	106	70-130	
Silver	ug/L	ND	2500	2520	101	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	4440	5000	9310	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: MPRP/28801
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177026001

METHOD BLANK: 1437257 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/10/14 15:51	
Antimony, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Arsenic, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Beryllium, Dissolved	ug/L	ND	1.0	09/10/14 15:51	
Cadmium, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Chromium, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Cobalt, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Copper, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Iron, Dissolved	ug/L	ND	50.0	09/10/14 15:51	
Lead, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Nickel, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Selenium, Dissolved	ug/L	ND	15.0	09/10/14 15:51	
Silver, Dissolved	ug/L	ND	7.0	09/10/14 15:51	
Thallium, Dissolved	ug/L	ND	20.0	09/10/14 15:51	
Zinc, Dissolved	ug/L	ND	50.0	09/10/14 15:51	

LABORATORY CONTROL SAMPLE: 1437258

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	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	994	99	85-115	
Chromium, Dissolved	ug/L	1000	980	98	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	984	98	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	995	100	85-115	
Silver, Dissolved	ug/L	500	492	98	85-115	
Thallium, Dissolved	ug/L	1000	982	98	85-115	
Zinc, Dissolved	ug/L	1000	976	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437259 1437260

Parameter	Units	60177026001 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	1260	50000	50000	51200	51200	100	100	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5210	5290	104	105	70-130	2	7	
Arsenic, Dissolved	ug/L	557	5000	5000	5610	5730	101	103	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4880	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5070	5140	101	103	70-130	1	10	
Chromium, Dissolved	ug/L	124	5000	5000	4890	4870	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5050	5090	100	101	70-130	1	11	
Iron, Dissolved	ug/L	190000	50000	50000	240000	228000	100	76	70-130	5	10	
Lead, Dissolved	ug/L	ND	5000	5000	4680	4710	93	94	70-130	1	10	
Nickel, Dissolved	ug/L	68.4	5000	5000	4860	4900	96	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5290	5410	105	108	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2530	2520	101	101	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4440	4520	89	90	70-130	2	6	
Zinc, Dissolved	ug/L	3120	5000	5000	7720	7480	92	87	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: MSV/64162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177026001, 60177026002

METHOD BLANK: 1437218 Matrix: Water
Associated Lab Samples: 60177026001, 60177026002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/04/14 10:29	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,2-Dichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/04/14 10:29	
2-Butanone (MEK)	ug/L	ND	10.0	09/04/14 10:29	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/04/14 10:29	N2
Acetone	ug/L	ND	10.0	09/04/14 10:29	N2
Benzene	ug/L	ND	1.0	09/04/14 10:29	
Bromodichloromethane	ug/L	ND	1.0	09/04/14 10:29	
Bromoform	ug/L	ND	1.0	09/04/14 10:29	
Bromomethane	ug/L	ND	5.0	09/04/14 10:29	
Carbon tetrachloride	ug/L	ND	1.0	09/04/14 10:29	
Chloroethane	ug/L	ND	1.0	09/04/14 10:29	
Chloroform	ug/L	ND	1.0	09/04/14 10:29	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	N2
Ethylbenzene	ug/L	ND	1.0	09/04/14 10:29	
Methylene chloride	ug/L	ND	1.0	09/04/14 10:29	
Tetrachloroethene	ug/L	ND	1.0	09/04/14 10:29	
Toluene	ug/L	ND	1.0	09/04/14 10:29	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Trichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Vinyl chloride	ug/L	ND	1.0	09/04/14 10:29	
Xylene (Total)	ug/L	ND	3.0	09/04/14 10:29	N2
1,2-Dichloroethane-d4 (S)	%	113	80-120	09/04/14 10:29	
4-Bromofluorobenzene (S)	%	99	80-120	09/04/14 10:29	
Toluene-d8 (S)	%	102	80-120	09/04/14 10:29	

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	25.0	125	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.2	101	67-124	
1,2-Dichloroethane	ug/L	20	19.0	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	98	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.1	95	59-131	N2
Acetone	ug/L	100	89.7	90	38-134	N2
Benzene	ug/L	20	18.9	94	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.2	101	65-127	
Bromomethane	ug/L	20	20.8	104	13-157	
Carbon tetrachloride	ug/L	20	24.3	122	70-131	
Chloroethane	ug/L	20	21.1	105	47-133	
Chloroform	ug/L	20	24.0	120	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.7	103	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	18.5	93	64-129	
Tetrachloroethene	ug/L	20	18.9	94	73-125	
Toluene	ug/L	20	18.7	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.0	95	71-123	
Vinyl chloride	ug/L	20	17.7	89	43-129	
Xylene (Total)	ug/L	60	57.7	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4350	109	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3820	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3620	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	46300	20000	63400	85	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18800	92	40-160	N2
Acetone	ug/L	98800	20000	100000	8	10-160	M1,N2
Benzene	ug/L	ND	4000	3770	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3620	91	35-142	
Bromoform	ug/L	ND	4000	4070	102	45-142	
Bromomethane	ug/L	ND	4000	4080	102	10-158	
Carbon tetrachloride	ug/L	ND	4000	4310	108	70-140	
Chloroethane	ug/L	ND	4000	4060	101	19-152	
Chloroform	ug/L	ND	4000	4110	103	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	3820	95	40-142	
Methylene chloride	ug/L	ND	4000	3490	86	31-144	
Tetrachloroethene	ug/L	ND	4000	3870	97	64-148	
Toluene	ug/L	ND	4000	3490	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3900	98	54-151	
Trichloroethene	ug/L	ND	4000	3620	90	71-149	
Vinyl chloride	ug/L	ND	4000	4350	109	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 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)	%				107	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: OEXT/46005
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177026001

METHOD BLANK: 1437749
Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/08/14 08:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/08/14 08:44	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/08/14 08:44	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/08/14 08:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachloroethane	ug/L	ND	5.0	09/08/14 08:44	
Naphthalene	ug/L	ND	5.0	09/08/14 08:44	
Nitrobenzene	ug/L	ND	5.0	09/08/14 08:44	
Pentachlorophenol	ug/L	ND	5.0	09/08/14 08:44	
Phenol	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Tribromophenol (S)	%	77	39-120	09/08/14 08:44	
2-Fluorobiphenyl (S)	%	69	39-120	09/08/14 08:44	
2-Fluorophenol (S)	%	36	17-120	09/08/14 08:44	
Nitrobenzene-d5 (S)	%	73	33-120	09/08/14 08:44	
Phenol-d6 (S)	%	25	11-120	09/08/14 08:44	
Terphenyl-d14 (S)	%	92	45-120	09/08/14 08:44	

LABORATORY CONTROL SAMPLE: 1437750

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	37.7	75	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.2	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.9	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	41.6	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.0	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	36.9	37	24-120	
Hexachloroethane	ug/L	50	37.2	74	43-113	
Naphthalene	ug/L	50	39.1	78	48-120	
Nitrobenzene	ug/L	50	43.2	86	48-120	
Pentachlorophenol	ug/L	50	51.5	103	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			82	39-120	
2-Fluorobiphenyl (S)	%			76	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

MATRIX SPIKE SAMPLE: 1437751

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3840	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4920	5000	8470	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3830J	77	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2820	28	11-120	
Hexachloroethane	ug/L	ND	5000	3260	65	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	4210	84	38-120	
Pentachlorophenol	ug/L	ND	5000	6310	126	43-135	
Phenol	ug/L	7210	5000	9470	45	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				71	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				108	33-120	
Phenol-d6 (S)	%				39	11-120	
Terphenyl-d14 (S)	%				79	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: WET/50100 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177026001

METHOD BLANK: 1439099 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/08/14 10:53	

LABORATORY CONTROL SAMPLE: 1439100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.9	97	78-114	

MATRIX SPIKE SAMPLE: 1439101

Parameter	Units	60176830002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	43.5	55.7	102	78-114	

MATRIX SPIKE SAMPLE: 1439102

Parameter	Units	60176744002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	43.5	104	78-114	

SAMPLE DUPLICATE: 1439103

Parameter	Units	50102851001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	151	130	15	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 316-408
Pace Project No.: 60177026

QC Batch: WET/50101 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177026001

METHOD BLANK: 1439104 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1439105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.0	115	64-132	

MATRIX SPIKE SAMPLE: 1439106

Parameter	Units	60176744002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	15.4	72	64-132	

SAMPLE DUPLICATE: 1439107

Parameter	Units	50102851001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	69.5	56.7	20	34	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: WET/50073 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177026001

METHOD BLANK: 1437813 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/05/14 08:11	

SAMPLE DUPLICATE: 1437814

Parameter	Units	60177060001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1437815

Parameter	Units	60177029002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	18.0	40	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: WET/50045
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177026001

SAMPLE DUPLICATE: 1437132

Parameter	Units	60176578001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

QC Batch: WET/50027 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177026001

METHOD BLANK: 1436704 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/08/14 14:00	

LABORATORY CONTROL SAMPLE: 1436705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1436706

Parameter	Units	60177053001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	222	195	13	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 316-408
Pace Project No.: 60177026

QC Batch: WETA/30904 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177026001

METHOD BLANK: 1439002 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/07/14 13:48	

LABORATORY CONTROL SAMPLE: 1439003

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

MATRIX SPIKE SAMPLE: 1439004

Parameter	Units	60177011003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.4	121	90-110	M1

MATRIX SPIKE SAMPLE: 1439005

Parameter	Units	60177035003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.16	2	2.3	105	90-110	

SAMPLE DUPLICATE: 1439006

Parameter	Units	60177139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.67	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 316-408
Pace Project No.: 60177026

QC Batch: WETA/30920 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177026001

METHOD BLANK: 1439246 Matrix: Water
Associated Lab Samples: 60177026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/09/14 05:42	

LABORATORY CONTROL SAMPLE: 1439247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1439248

Parameter	Units	60176746001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	442	250	678	94	90-110	

MATRIX SPIKE SAMPLE: 1439250

Parameter	Units	60177028002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.4	50	67.8	101	90-110	

SAMPLE DUPLICATE: 1439249

Parameter	Units	60176830001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	180	178	1	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

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.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-408
Pace Project No.: 60177026

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177026001	**316-408**	EPA 200.7	MPRP/28800	EPA 200.7	ICP/21707
60177026001	**316-408**	EPA 200.7	MPRP/28801	EPA 200.7	ICP/21709
60177026001	**316-408**	EPA 245.1	MERP/8785	EPA 245.1	MERC/8740
60177026001	**316-408**	EPA 245.1	MERP/8771	EPA 245.1	MERC/8724
60177026001	**316-408**	EPA 625	OEXT/46005	EPA 625	MSSV/14769
60177026001	**316-408**	EPA 624 Low	MSV/64162		
60177026002	**TRIP BLANK**	EPA 624 Low	MSV/64162		
60177026001	**316-408**	EPA 1664A	WET/50100		
60177026001	**316-408**	EPA 1664A	WET/50101		
60177026001	**316-408**	SM 2540D	WET/50073		
60177026001	**316-408**	SM 4500-H+B	WET/50045		
60177026001	**316-408**	SM 5210B	WET/50027	SM 5210B	WET/50123
60177026001	**316-408**	EPA 350.1	WETA/30904		
60177026001	**316-408**	EPA 410.4	WETA/30920		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60177026

60177026

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 ☐ 2PIC

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

Cooler Temperature: 1.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PVG 9/3/14

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 2.5 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. 4.5/~~2.0~~ 1.5 PVG 9/3/14
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: PV Lot # of added preservative: 12513/12787
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: _____ Date: 9/3/14

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	Analysis Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60177026
1	316-408 2AG4U 1BP3U 3AG3S	OT	G	9/1/14	1322				14	9	4	1	0	1BP3S				X	X	X	X	X	X	X	X	X	X	1BP3N	4.0	1BP2U 5DG4U	01
2	TRIP BLANK								2	2															X				2DG4U	02
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	FEI	9-2-14	13:00		9-2-14	13:00				
SITE ADDRESS: BRIDGETON LF				PAS	9/3/14	0320	1.6	Y	X	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	WILLIAM ABERNATHY	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 9/1/14				

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

September 10, 2014

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

RE: Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 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 316-409
Pace Project No.: 60177036

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 316-409
Pace Project No.: 60177036

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177036001	**316-409**	Water	09/02/14 10:16	09/03/14 03:20
60177036002	**TRIP BLANK**	Water	09/02/14 10:16	09/03/14 03:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177036001	**316-409**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177036002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Sample: 316-409 **Lab ID: 60177036001** Collected: 09/02/14 10:16 Received: 09/03/14 03:20 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	**8320**	ug/L	375	1	09/04/14 11:50	09/10/14 14:10	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:10	7440-36-0	
Arsenic	**829**	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/04/14 11:50	09/10/14 14:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:10	7440-43-9	
Chromium	**202**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:10	7440-47-3	
Cobalt	**28.1**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:10	7440-48-4	
Copper	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 14:10	7440-50-8	
Iron	**630000**	ug/L	250	1	09/04/14 11:50	09/10/14 14:10	7439-89-6	M1
Lead	**111**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:10	7439-92-1	
Nickel	**90.7**	ug/L	25.0	1	09/04/14 11:50	09/10/14 14:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/04/14 11:50	09/10/14 14:10	7782-49-2	
Silver	ND	ug/L	35.0	1	09/04/14 11:50	09/10/14 14:10	7440-22-4	
Thallium	ND	ug/L	100	1	09/04/14 11:50	09/10/14 14:10	7440-28-0	
Zinc	**4440**	ug/L	250	1	09/04/14 11:50	09/10/14 14:10	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1410**	ug/L	375	1	09/04/14 11:50	09/10/14 16:06	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 16:06	7440-36-0	
Arsenic, Dissolved	**582**	ug/L	50.0	1	09/04/14 11:50	09/10/14 16:06	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/04/14 11:50	09/10/14 16:06	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 16:06	7440-43-9	
Chromium, Dissolved	**128**	ug/L	25.0	1	09/04/14 11:50	09/10/14 16:06	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 16:06	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/04/14 11:50	09/10/14 16:06	7440-50-8	
Iron, Dissolved	**229000**	ug/L	250	1	09/04/14 11:50	09/10/14 16:06	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/04/14 11:50	09/10/14 16:06	7439-92-1	
Nickel, Dissolved	**65.6**	ug/L	25.0	1	09/04/14 11:50	09/10/14 16:06	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/04/14 11:50	09/10/14 16:06	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/04/14 11:50	09/10/14 16:06	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/04/14 11:50	09/10/14 16:06	7440-28-0	
Zinc, Dissolved	**3160**	ug/L	250	1	09/04/14 11:50	09/10/14 16:06	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10.8**	ug/L	6.0	1	09/09/14 10:37	09/09/14 15:07	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	09/03/14 17:33	09/04/14 11:48	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/05/14 00:00	09/08/14 12:57	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/05/14 00:00	09/08/14 12:57	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4610**	ug/L	4000	2	09/05/14 00:00	09/08/14 12:57		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Sample: 316-409 **Lab ID: 60177036001** Collected: 09/02/14 10:16 Received: 09/03/14 03:20 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	09/05/14 00:00	09/08/14 12:57	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	87-86-5	
Phenol	**6740**	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 12:57	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	112	%	33-120	2	09/05/14 00:00	09/08/14 12:57	4165-60-0	
2-Fluorobiphenyl (S)	76	%	39-120	2	09/05/14 00:00	09/08/14 12:57	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	09/05/14 00:00	09/08/14 12:57	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	09/05/14 00:00	09/08/14 12:57	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	09/05/14 00:00	09/08/14 12:57	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	09/05/14 00:00	09/08/14 12:57	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**96000**	ug/L	2000	200		09/04/14 12:02	67-64-1	N2
Benzene	ND	ug/L	200	200		09/04/14 12:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/04/14 12:02	75-27-4	
Bromoform	ND	ug/L	200	200		09/04/14 12:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/04/14 12:02	74-83-9	
2-Butanone (MEK)	**59800**	ug/L	2000	200		09/04/14 12:02	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/04/14 12:02	56-23-5	
Chloroethane	ND	ug/L	200	200		09/04/14 12:02	75-00-3	
Chloroform	ND	ug/L	200	200		09/04/14 12:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/04/14 12:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/04/14 12:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 12:02	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 12:02	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/04/14 12:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/04/14 12:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/04/14 12:02	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/04/14 12:02	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/04/14 12:02	127-18-4	
Toluene	ND	ug/L	200	200		09/04/14 12:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/04/14 12:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/04/14 12:02	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/04/14 12:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/04/14 12:02	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/04/14 12:02	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	200		09/04/14 12:02	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		09/04/14 12:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		09/04/14 12:02	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/04/14 12:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**448**	mg/L	5.0	1		09/08/14 10:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Sample: 316-409 **Lab ID: 60177036001** Collected: 09/02/14 10:16 Received: 09/03/14 03:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.4**	mg/L	5.0	1		09/08/14 15:08		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2200**	mg/L	5.0	1		09/05/14 08:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/04/14 08:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**20800**	mg/L	2.0	1	09/03/14 14:48	09/08/14 15:23		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**410**	mg/L	20.0	200		09/07/14 13:59	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**37100**	mg/L	5000	500		09/09/14 05:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Sample: TRIP BLANK **Lab ID: 60177036002** Collected: 09/02/14 10:16 Received: 09/03/14 03:20 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		09/04/14 11:15	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/04/14 11:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/04/14 11:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/04/14 11:15	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/04/14 11:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/04/14 11:15	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/04/14 11:15	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/04/14 11:15	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/04/14 11:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/04/14 11:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/04/14 11:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 11:15	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 11:15	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/04/14 11:15	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/04/14 11:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/04/14 11:15	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/04/14 11:15	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/04/14 11:15	127-18-4	
Toluene	ND	ug/L	1.0	1		09/04/14 11:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/04/14 11:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/04/14 11:15	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/04/14 11:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/04/14 11:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/04/14 11:15	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		09/04/14 11:15	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/04/14 11:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		09/04/14 11:15	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/04/14 11:15		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: MERP/8785
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177036001

METHOD BLANK: 1439614 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/09/14 14:40	

LABORATORY CONTROL SAMPLE: 1439615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439616 1439617

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	20.7	150	150	150	131	86	74	70-130	13	20	

MATRIX SPIKE SAMPLE: 1439618

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	23.8	150	132	72	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: MERP/8771
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177036001

METHOD BLANK: 1436991 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/04/14 11:33	

LABORATORY CONTROL SAMPLE: 1436992

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1436993 1436994

Parameter	Units	60177026001 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	111	122	74	82	70-130	10	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: MPRP/28800
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177036001

METHOD BLANK: 1437252
Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/10/14 13:58	
Antimony	ug/L	ND	10.0	09/10/14 13:58	
Arsenic	ug/L	ND	10.0	09/10/14 13:58	
Beryllium	ug/L	ND	1.0	09/10/14 13:58	
Cadmium	ug/L	ND	5.0	09/10/14 13:58	
Chromium	ug/L	ND	5.0	09/10/14 13:58	
Cobalt	ug/L	ND	5.0	09/10/14 13:58	
Copper	ug/L	ND	10.0	09/10/14 13:58	
Iron	ug/L	ND	50.0	09/10/14 13:58	
Lead	ug/L	ND	5.0	09/10/14 13:58	
Nickel	ug/L	ND	5.0	09/10/14 13:58	
Selenium	ug/L	ND	15.0	09/10/14 13:58	
Silver	ug/L	ND	7.0	09/10/14 13:58	
Thallium	ug/L	ND	20.0	09/10/14 13:58	
Zinc	ug/L	ND	50.0	09/10/14 13:58	

LABORATORY CONTROL SAMPLE: 1437253

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9780	98	85-115	
Antimony	ug/L	1000	985	98	85-115	
Arsenic	ug/L	1000	958	96	85-115	
Beryllium	ug/L	1000	967	97	85-115	
Cadmium	ug/L	1000	971	97	85-115	
Chromium	ug/L	1000	979	98	85-115	
Cobalt	ug/L	1000	979	98	85-115	
Copper	ug/L	1000	953	95	85-115	
Iron	ug/L	10000	9690	97	85-115	
Lead	ug/L	1000	982	98	85-115	
Nickel	ug/L	1000	997	100	85-115	
Selenium	ug/L	1000	948	95	85-115	
Silver	ug/L	500	482	96	85-115	
Thallium	ug/L	1000	970	97	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 316-409
Pace Project No.: 60177036

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437254 1437255

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	21800	50000	50000	85800	83300	128	123	70-130	3	8	
Antimony	ug/L	ND	5000	5000	5040	5100	100	101	70-130	1	7	
Arsenic	ug/L	970	5000	5000	6080	6150	102	104	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4690	4730	94	95	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5000	5060	100	101	70-130	1	10	
Chromium	ug/L	259	5000	5000	4980	5040	94	96	70-130	1	10	
Cobalt	ug/L	46.1	5000	5000	4700	4770	93	94	70-130	2	6	
Copper	ug/L	58.2	5000	5000	4960	5010	98	99	70-130	1	11	
Iron	ug/L	804000	50000	50000	847000	848000	85	86	70-130	0	10	
Lead	ug/L	192	5000	5000	4750	4770	91	91	70-130	0	10	
Nickel	ug/L	121	5000	5000	4810	4880	94	95	70-130	1	10	
Selenium	ug/L	ND	5000	5000	5270	5380	105	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2510	2530	100	101	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4310	4390	86	88	70-130	2	6	
Zinc	ug/L	6790	5000	5000	11300	11200	90	89	70-130	0	11	

MATRIX SPIKE SAMPLE: 1437256

Parameter	Units	60177036001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	8320	50000	63800	111	70-130	
Antimony	ug/L	ND	5000	5080	101	70-130	
Arsenic	ug/L	829	5000	6000	104	70-130	
Beryllium	ug/L	ND	5000	4730	95	70-130	
Cadmium	ug/L	ND	5000	5020	100	70-130	
Chromium	ug/L	202	5000	4980	96	70-130	
Cobalt	ug/L	28.1	5000	4740	94	70-130	
Copper	ug/L	ND	5000	4940	98	70-130	
Iron	ug/L	630000	50000	716000	173	70-130	M1
Lead	ug/L	111	5000	4700	92	70-130	
Nickel	ug/L	90.7	5000	4850	95	70-130	
Selenium	ug/L	ND	5000	5300	106	70-130	
Silver	ug/L	ND	2500	2520	101	70-130	
Thallium	ug/L	ND	5000	4380	88	70-130	
Zinc	ug/L	4440	5000	9310	97	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: MPRP/28801
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177036001

METHOD BLANK: 1437257 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/10/14 15:51	
Antimony, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Arsenic, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Beryllium, Dissolved	ug/L	ND	1.0	09/10/14 15:51	
Cadmium, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Chromium, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Cobalt, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Copper, Dissolved	ug/L	ND	10.0	09/10/14 15:51	
Iron, Dissolved	ug/L	ND	50.0	09/10/14 15:51	
Lead, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Nickel, Dissolved	ug/L	ND	5.0	09/10/14 15:51	
Selenium, Dissolved	ug/L	ND	15.0	09/10/14 15:51	
Silver, Dissolved	ug/L	ND	7.0	09/10/14 15:51	
Thallium, Dissolved	ug/L	ND	20.0	09/10/14 15:51	
Zinc, Dissolved	ug/L	ND	50.0	09/10/14 15:51	

LABORATORY CONTROL SAMPLE: 1437258

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	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	994	99	85-115	
Chromium, Dissolved	ug/L	1000	980	98	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	984	98	85-115	
Iron, Dissolved	ug/L	10000	9860	99	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	995	100	85-115	
Silver, Dissolved	ug/L	500	492	98	85-115	
Thallium, Dissolved	ug/L	1000	982	98	85-115	
Zinc, Dissolved	ug/L	1000	976	98	85-115	

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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 316-409
Pace Project No.: 60177036

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437259 1437260

Parameter	Units	60177026001 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	1260	50000	50000	51200	51200	100	100	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5210	5290	104	105	70-130	2	7	
Arsenic, Dissolved	ug/L	557	5000	5000	5610	5730	101	103	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4880	4900	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5070	5140	101	103	70-130	1	10	
Chromium, Dissolved	ug/L	124	5000	5000	4890	4870	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4860	4890	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5050	5090	100	101	70-130	1	11	
Iron, Dissolved	ug/L	190000	50000	50000	240000	228000	100	76	70-130	5	10	
Lead, Dissolved	ug/L	ND	5000	5000	4680	4710	93	94	70-130	1	10	
Nickel, Dissolved	ug/L	68.4	5000	5000	4860	4900	96	97	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5290	5410	105	108	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2530	2520	101	101	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4440	4520	89	90	70-130	2	6	
Zinc, Dissolved	ug/L	3120	5000	5000	7720	7480	92	87	70-130	3	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 316-409
Pace Project No.: 60177036

QC Batch: MSV/64162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177036001, 60177036002

METHOD BLANK: 1437218 Matrix: Water
Associated Lab Samples: 60177036001, 60177036002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/04/14 10:29	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,2-Dichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/04/14 10:29	
2-Butanone (MEK)	ug/L	ND	10.0	09/04/14 10:29	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/04/14 10:29	N2
Acetone	ug/L	ND	10.0	09/04/14 10:29	N2
Benzene	ug/L	ND	1.0	09/04/14 10:29	
Bromodichloromethane	ug/L	ND	1.0	09/04/14 10:29	
Bromoform	ug/L	ND	1.0	09/04/14 10:29	
Bromomethane	ug/L	ND	5.0	09/04/14 10:29	
Carbon tetrachloride	ug/L	ND	1.0	09/04/14 10:29	
Chloroethane	ug/L	ND	1.0	09/04/14 10:29	
Chloroform	ug/L	ND	1.0	09/04/14 10:29	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	N2
Ethylbenzene	ug/L	ND	1.0	09/04/14 10:29	
Methylene chloride	ug/L	ND	1.0	09/04/14 10:29	
Tetrachloroethene	ug/L	ND	1.0	09/04/14 10:29	
Toluene	ug/L	ND	1.0	09/04/14 10:29	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Trichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Vinyl chloride	ug/L	ND	1.0	09/04/14 10:29	
Xylene (Total)	ug/L	ND	3.0	09/04/14 10:29	N2
1,2-Dichloroethane-d4 (S)	%	113	80-120	09/04/14 10:29	
4-Bromofluorobenzene (S)	%	99	80-120	09/04/14 10:29	
Toluene-d8 (S)	%	102	80-120	09/04/14 10:29	

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	25.0	125	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.2	101	67-124	
1,2-Dichloroethane	ug/L	20	19.0	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	98	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.1	95	59-131	N2
Acetone	ug/L	100	89.7	90	38-134	N2
Benzene	ug/L	20	18.9	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.2	101	65-127	
Bromomethane	ug/L	20	20.8	104	13-157	
Carbon tetrachloride	ug/L	20	24.3	122	70-131	
Chloroethane	ug/L	20	21.1	105	47-133	
Chloroform	ug/L	20	24.0	120	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.7	103	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	18.5	93	64-129	
Tetrachloroethene	ug/L	20	18.9	94	73-125	
Toluene	ug/L	20	18.7	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.0	95	71-123	
Vinyl chloride	ug/L	20	17.7	89	43-129	
Xylene (Total)	ug/L	60	57.7	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4350	109	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3820	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3620	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	46300	20000	63400	85	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18800	92	40-160	N2
Acetone	ug/L	98800	20000	100000	8	10-160	M1,N2
Benzene	ug/L	ND	4000	3770	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3620	91	35-142	
Bromoform	ug/L	ND	4000	4070	102	45-142	
Bromomethane	ug/L	ND	4000	4080	102	10-158	
Carbon tetrachloride	ug/L	ND	4000	4310	108	70-140	
Chloroethane	ug/L	ND	4000	4060	101	19-152	
Chloroform	ug/L	ND	4000	4110	103	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	3820	95	40-142	
Methylene chloride	ug/L	ND	4000	3490	86	31-144	
Tetrachloroethene	ug/L	ND	4000	3870	97	64-148	
Toluene	ug/L	ND	4000	3490	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3900	98	54-151	
Trichloroethene	ug/L	ND	4000	3620	90	71-149	
Vinyl chloride	ug/L	ND	4000	4350	109	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 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)	%				107	80-120	
4-Bromofluorobenzene (S)	%				100	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 316-409
Pace Project No.: 60177036

QC Batch: OEXT/46005
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177036001

METHOD BLANK: 1437749
Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/08/14 08:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/08/14 08:44	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/08/14 08:44	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/08/14 08:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachloroethane	ug/L	ND	5.0	09/08/14 08:44	
Naphthalene	ug/L	ND	5.0	09/08/14 08:44	
Nitrobenzene	ug/L	ND	5.0	09/08/14 08:44	
Pentachlorophenol	ug/L	ND	5.0	09/08/14 08:44	
Phenol	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Tribromophenol (S)	%	77	39-120	09/08/14 08:44	
2-Fluorobiphenyl (S)	%	69	39-120	09/08/14 08:44	
2-Fluorophenol (S)	%	36	17-120	09/08/14 08:44	
Nitrobenzene-d5 (S)	%	73	33-120	09/08/14 08:44	
Phenol-d6 (S)	%	25	11-120	09/08/14 08:44	
Terphenyl-d14 (S)	%	92	45-120	09/08/14 08:44	

LABORATORY CONTROL SAMPLE: 1437750

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	37.7	75	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.2	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.9	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	41.6	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.0	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	36.9	37	24-120	
Hexachloroethane	ug/L	50	37.2	74	43-113	
Naphthalene	ug/L	50	39.1	78	48-120	
Nitrobenzene	ug/L	50	43.2	86	48-120	
Pentachlorophenol	ug/L	50	51.5	103	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			82	39-120	
2-Fluorobiphenyl (S)	%			76	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

MATRIX SPIKE SAMPLE: 1437751

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3840	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4920	5000	8470	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3830J	77	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2820	28	11-120	
Hexachloroethane	ug/L	ND	5000	3260	65	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	4210	84	38-120	
Pentachlorophenol	ug/L	ND	5000	6310	126	43-135	
Phenol	ug/L	7210	5000	9470	45	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				71	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				108	33-120	
Phenol-d6 (S)	%				39	11-120	
Terphenyl-d14 (S)	%				79	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WET/50100 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177036001

METHOD BLANK: 1439099 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/08/14 10:53	

LABORATORY CONTROL SAMPLE: 1439100

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.9	97	78-114	

MATRIX SPIKE SAMPLE: 1439101

Parameter	Units	60176830002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	11.1	43.5	55.7	102	78-114	

MATRIX SPIKE SAMPLE: 1439102

Parameter	Units	60176744002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	43.5	104	78-114	

SAMPLE DUPLICATE: 1439103

Parameter	Units	50102851001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	151	130	15	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WET/50101
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177036001

METHOD BLANK: 1439104 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/08/14 15:07	

LABORATORY CONTROL SAMPLE: 1439105

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.0	115	64-132	

MATRIX SPIKE SAMPLE: 1439106

Parameter	Units	60176744002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	15.4	72	64-132	

SAMPLE DUPLICATE: 1439107

Parameter	Units	50102851001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	69.5	56.7	20	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WET/50074
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177036001

METHOD BLANK: 1437819
Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/05/14 08:22	

SAMPLE DUPLICATE: 1437820

Parameter	Units	60177020004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	21.0	15.0	33	10	D6

SAMPLE DUPLICATE: 1437821

Parameter	Units	60177051001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	ND		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WET/50045
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177036001

SAMPLE DUPLICATE: 1437132

Parameter	Units	60176578001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.5	8.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WET/50027
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177036001

METHOD BLANK: 1436704 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/08/14 14:00	

LABORATORY CONTROL SAMPLE: 1436705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	198	100	85-115	

SAMPLE DUPLICATE: 1436706

Parameter	Units	60177053001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	222	195	13	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WETA/30904 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177036001

METHOD BLANK: 1439002 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/07/14 13:48	

LABORATORY CONTROL SAMPLE: 1439003

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

MATRIX SPIKE SAMPLE: 1439004

Parameter	Units	60177011003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.4	121	90-110	M1

MATRIX SPIKE SAMPLE: 1439005

Parameter	Units	60177035003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.16	2	2.3	105	90-110	

SAMPLE DUPLICATE: 1439006

Parameter	Units	60177139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.67	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

QC Batch: WETA/30920 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177036001

METHOD BLANK: 1439246 Matrix: Water
Associated Lab Samples: 60177036001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/09/14 05:42	

LABORATORY CONTROL SAMPLE: 1439247

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1439248

Parameter	Units	60176746001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	442	250	678	94	90-110	

MATRIX SPIKE SAMPLE: 1439250

Parameter	Units	60177028002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	17.4	50	67.8	101	90-110	

SAMPLE DUPLICATE: 1439249

Parameter	Units	60176830001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	180	178	1	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-409
Pace Project No.: 60177036

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177036001	**316-409**	EPA 200.7	MPRP/28800	EPA 200.7	ICP/21707
60177036001	**316-409**	EPA 200.7	MPRP/28801	EPA 200.7	ICP/21709
60177036001	**316-409**	EPA 245.1	MERP/8785	EPA 245.1	MERC/8740
60177036001	**316-409**	EPA 245.1	MERP/8771	EPA 245.1	MERC/8724
60177036001	**316-409**	EPA 625	OEXT/46005	EPA 625	MSSV/14769
60177036001	**316-409**	EPA 624 Low	MSV/64162		
60177036002	**TRIP BLANK**	EPA 624 Low	MSV/64162		
60177036001	**316-409**	EPA 1664A	WET/50100		
60177036001	**316-409**	EPA 1664A	WET/50101		
60177036001	**316-409**	SM 2540D	WET/50074		
60177036001	**316-409**	SM 4500-H+B	WET/50045		
60177036001	**316-409**	SM 5210B	WET/50027	SM 5210B	WET/50123
60177036001	**316-409**	EPA 350.1	WETA/30904		
60177036001	**316-409**	EPA 410.4	WETA/30920		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60177036

60177036

Client Name: Burr

Optional
Proj Due Date:
Proj Name:

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

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: 5.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 9/3/14

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 2-5 ml of HNO3 to BP3N. 6.0/4.0 Added 2-0 ml of H2SO4 to BP3S. 6.0/2-5
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 PV / Lot # of added preservative 12513 12787
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: _____ Date: 9/3/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

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)	60177036
1	BAGBS 316-4092AGHU1BP3U	OT	G	9/2/14	1016				14	8	4	1	0	1BP3S2			5		X	X	X	X	X	X	X	X	X	X	1BP3U	4-U 1BP2U 5DGHU 2DGHU
2	TRIP BLANK								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	FBI	9-2-14	13:00		9-2-14	13:00				
SITE ADDRESS: BRIDGETON LF				PACE	9/2/14	032c	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: 9/2/14				

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

September 11, 2014

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

RE: Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

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

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

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 316-410
Pace Project No.: 60177151

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177151001	**316-410**	Water	09/03/14 10:14	09/04/14 02:15
60177151002	**TRIP BLANK**	Water	09/03/14 10:14	09/04/14 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177151001	**316-410**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177151002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Sample: 316-410 **Lab ID: 60177151001** Collected: 09/03/14 10:14 Received: 09/04/14 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	**8090**	ug/L	375	1	09/08/14 10:40	09/10/14 18:03	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:03	7440-36-0	
Arsenic	**913**	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:03	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/08/14 10:40	09/10/14 18:03	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:03	7440-43-9	
Chromium	**222**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:03	7440-47-3	
Cobalt	**32.1**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:03	7440-48-4	
Copper	ND	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:03	7440-50-8	
Iron	**694000**	ug/L	250	1	09/08/14 10:40	09/10/14 18:03	7439-89-6	M1
Lead	**97.2**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:03	7439-92-1	
Nickel	**104**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:03	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/08/14 10:40	09/10/14 18:03	7782-49-2	
Silver	ND	ug/L	35.0	1	09/08/14 10:40	09/10/14 18:03	7440-22-4	
Thallium	ND	ug/L	100	1	09/08/14 10:40	09/10/14 18:03	7440-28-0	
Zinc	**4700**	ug/L	250	1	09/08/14 10:40	09/10/14 18:03	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**343**	ug/L	75.0	1	09/05/14 11:10	09/10/14 18:26	7429-90-5	
Antimony, Dissolved	ND	ug/L	10.0	1	09/05/14 11:10	09/10/14 18:26	7440-36-0	
Arsenic, Dissolved	**137**	ug/L	10.0	1	09/05/14 11:10	09/10/14 18:26	7440-38-2	
Beryllium, Dissolved	ND	ug/L	1.0	1	09/05/14 11:10	09/10/14 18:26	7440-41-7	
Cadmium, Dissolved	ND	ug/L	5.0	1	09/05/14 11:10	09/10/14 18:26	7440-43-9	
Chromium, Dissolved	**28.3**	ug/L	5.0	1	09/05/14 11:10	09/10/14 18:26	7440-47-3	
Cobalt, Dissolved	**5.0**	ug/L	5.0	1	09/05/14 11:10	09/10/14 18:26	7440-48-4	
Copper, Dissolved	ND	ug/L	10.0	1	09/05/14 11:10	09/10/14 18:26	7440-50-8	
Iron, Dissolved	**51000**	ug/L	50.0	1	09/05/14 11:10	09/10/14 18:26	7439-89-6	
Lead, Dissolved	**5.6**	ug/L	5.0	1	09/05/14 11:10	09/10/14 18:26	7439-92-1	
Nickel, Dissolved	**14.4**	ug/L	5.0	1	09/05/14 11:10	09/10/14 18:26	7440-02-0	
Selenium, Dissolved	ND	ug/L	15.0	1	09/05/14 11:10	09/10/14 18:26	7782-49-2	
Silver, Dissolved	ND	ug/L	7.0	1	09/05/14 11:10	09/10/14 18:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	20.0	1	09/05/14 11:10	09/10/14 18:26	7440-28-0	
Zinc, Dissolved	**716**	ug/L	50.0	1	09/05/14 11:10	09/10/14 18:26	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**11.7**	ug/L	6.0	1	09/09/14 10:37	09/09/14 15:11	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	09/09/14 10:37	09/09/14 15:49	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/05/14 00:00	09/08/14 13:19	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/05/14 00:00	09/08/14 13:19	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4750**	ug/L	4000	2	09/05/14 00:00	09/08/14 13:19		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Sample: 316-410 **Lab ID: 60177151001** Collected: 09/03/14 10:14 Received: 09/04/14 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	09/05/14 00:00	09/08/14 13:19	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	87-86-5	
Phenol	**7060**	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/05/14 00:00	09/08/14 13:19	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	33-120	2	09/05/14 00:00	09/08/14 13:19	4165-60-0	
2-Fluorobiphenyl (S)	71	%	39-120	2	09/05/14 00:00	09/08/14 13:19	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	09/05/14 00:00	09/08/14 13:19	1718-51-0	
Phenol-d6 (S)	40	%	11-120	2	09/05/14 00:00	09/08/14 13:19	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	09/05/14 00:00	09/08/14 13:19	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	09/05/14 00:00	09/08/14 13:19	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**79800**	ug/L	2000	200		09/04/14 12:17	67-64-1	N2
Benzene	ND	ug/L	200	200		09/04/14 12:17	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/04/14 12:17	75-27-4	
Bromoform	ND	ug/L	200	200		09/04/14 12:17	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/04/14 12:17	74-83-9	
2-Butanone (MEK)	**45000**	ug/L	2000	200		09/04/14 12:17	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/04/14 12:17	56-23-5	
Chloroethane	ND	ug/L	200	200		09/04/14 12:17	75-00-3	
Chloroform	ND	ug/L	200	200		09/04/14 12:17	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/04/14 12:17	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/04/14 12:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 12:17	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/04/14 12:17	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/04/14 12:17	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/04/14 12:17	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/04/14 12:17	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/04/14 12:17	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/04/14 12:17	127-18-4	
Toluene	ND	ug/L	200	200		09/04/14 12:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/04/14 12:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/04/14 12:17	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/04/14 12:17	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/04/14 12:17	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/04/14 12:17	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		09/04/14 12:17	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		09/04/14 12:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		09/04/14 12:17	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/04/14 12:17		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**685**	mg/L	5.0	1		09/08/14 15:17		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Sample: 316-410 **Lab ID: 60177151001** Collected: 09/03/14 10:14 Received: 09/04/14 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	**14.8**	mg/L	5.0	1		09/08/14 15:36		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3980**	mg/L	5.0	1		09/08/14 11:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/08/14 08:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**22400**	mg/L	2.0	1	09/05/14 08:49	09/10/14 11:28		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**416**	mg/L	20.0	200		09/07/14 14:06	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**37500**	mg/L	5000	500		09/10/14 06:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Sample: TRIP BLANK **Lab ID: 60177151002** Collected: 09/03/14 10:14 Received: 09/04/14 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		09/04/14 12:33	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/04/14 12:33	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/04/14 12:33	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/04/14 12:33	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/04/14 12:33	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/04/14 12:33	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/04/14 12:33	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/04/14 12:33	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/04/14 12:33	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/04/14 12:33	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/04/14 12:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 12:33	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/04/14 12:33	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/04/14 12:33	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/04/14 12:33	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/04/14 12:33	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/04/14 12:33	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/04/14 12:33	127-18-4	
Toluene	ND	ug/L	1.0	1		09/04/14 12:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/04/14 12:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/04/14 12:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/04/14 12:33	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/04/14 12:33	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/04/14 12:33	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		09/04/14 12:33	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/04/14 12:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	107	%	80-120	1		09/04/14 12:33	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/04/14 12:33		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: MERP/8785
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177151001

METHOD BLANK: 1439614 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/09/14 14:40	

LABORATORY CONTROL SAMPLE: 1439615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439616 1439617

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	20.7	150	150	150	131	86	74	70-130	13	20	

MATRIX SPIKE SAMPLE: 1439618

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	23.8	150	132	72	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: MERP/8786
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177151001

METHOD BLANK: 1439619 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/09/14 15:45	

LABORATORY CONTROL SAMPLE: 1439620

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: 1439621 1439622

Parameter	Units	60177151001 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	97.8	91.2	65	61	70-130	7	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: MPRP/28826
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177151001

METHOD BLANK: 1439053
Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/10/14 17:58	
Antimony	ug/L	ND	10.0	09/10/14 17:58	
Arsenic	ug/L	ND	10.0	09/10/14 17:58	
Beryllium	ug/L	ND	1.0	09/10/14 17:58	
Cadmium	ug/L	ND	5.0	09/10/14 17:58	
Chromium	ug/L	ND	5.0	09/10/14 17:58	
Cobalt	ug/L	ND	5.0	09/10/14 17:58	
Copper	ug/L	ND	10.0	09/10/14 17:58	
Iron	ug/L	ND	50.0	09/10/14 17:58	
Lead	ug/L	ND	5.0	09/10/14 17:58	
Nickel	ug/L	ND	5.0	09/10/14 17:58	
Selenium	ug/L	ND	15.0	09/10/14 17:58	
Silver	ug/L	ND	7.0	09/10/14 17:58	
Thallium	ug/L	ND	20.0	09/10/14 17:58	
Zinc	ug/L	ND	50.0	09/10/14 17:58	

LABORATORY CONTROL SAMPLE: 1439054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1050	105	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	516	103	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1040	104	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439055 1439056

Parameter	Units	60177151001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8090	50000	50000	63300	63500	110	111	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5420	5300	108	105	70-130	2	7	
Arsenic	ug/L	913	5000	5000	6150	6140	105	104	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5020	4950	100	99	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5340	5260	107	105	70-130	1	10	
Chromium	ug/L	222	5000	5000	5140	5140	98	98	70-130	0	10	
Cobalt	ug/L	32.1	5000	5000	5020	4970	100	99	70-130	1	6	
Copper	ug/L	ND	5000	5000	5280	5160	105	103	70-130	2	11	
Iron	ug/L	694000	50000	50000	662000	722000	-65	57	70-130	9	10	M1
Lead	ug/L	97.2	5000	5000	4950	4880	97	96	70-130	1	10	
Nickel	ug/L	104	5000	5000	5080	5000	100	98	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5580	5540	111	110	70-130	1	10	
Silver	ug/L	ND	2500	2500	2640	2600	105	104	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4490	91	90	70-130	2	6	
Zinc	ug/L	4700	5000	5000	8900	9260	84	91	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: MPRP/28816
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177151001

METHOD BLANK: 1437900 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/10/14 18:17	
Antimony, Dissolved	ug/L	ND	10.0	09/10/14 18:17	
Arsenic, Dissolved	ug/L	ND	10.0	09/10/14 18:17	
Beryllium, Dissolved	ug/L	ND	1.0	09/10/14 18:17	
Cadmium, Dissolved	ug/L	ND	5.0	09/10/14 18:17	
Chromium, Dissolved	ug/L	ND	5.0	09/10/14 18:17	
Cobalt, Dissolved	ug/L	ND	5.0	09/10/14 18:17	
Copper, Dissolved	ug/L	ND	10.0	09/10/14 18:17	
Iron, Dissolved	ug/L	ND	50.0	09/10/14 18:17	
Lead, Dissolved	ug/L	ND	5.0	09/10/14 18:17	
Nickel, Dissolved	ug/L	ND	5.0	09/10/14 18:17	
Selenium, Dissolved	ug/L	ND	15.0	09/10/14 18:17	
Silver, Dissolved	ug/L	ND	7.0	09/10/14 18:17	
Thallium, Dissolved	ug/L	ND	20.0	09/10/14 18:17	
Zinc, Dissolved	ug/L	ND	50.0	09/10/14 18:17	

LABORATORY CONTROL SAMPLE: 1437901

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	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	1010	101	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1040	104	85-115	
Chromium, Dissolved	ug/L	1000	1040	104	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1060	106	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1437902 1437903

Parameter	Units	60177151001 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	343	10000	10000	10900	11000	105	106	70-130	1	8	
Antimony, Dissolved	ug/L	ND	1000	1000	1090	1100	109	109	70-130	1	7	
Arsenic, Dissolved	ug/L	137	1000	1000	1210	1220	108	108	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1010	1020	101	102	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1070	1080	107	108	70-130	0	10	
Chromium, Dissolved	ug/L	28.3	1000	1000	1040	1040	101	101	70-130	0	10	
Cobalt, Dissolved	ug/L	5.0	1000	1000	1020	1020	101	102	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1060	106	106	70-130	0	11	
Iron, Dissolved	ug/L	51000	10000	10000	59700	60300	86	93	70-130	1	10	
Lead, Dissolved	ug/L	5.6	1000	1000	983	993	98	99	70-130	1	10	
Nickel, Dissolved	ug/L	14.4	1000	1000	1020	1020	100	101	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1120	1130	112	113	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	531	534	106	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	930	930	93	93	70-130	0	6	
Zinc, Dissolved	ug/L	716	1000	1000	1670	1690	96	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: MSV/64162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177151001, 60177151002

METHOD BLANK: 1437218 Matrix: Water
Associated Lab Samples: 60177151001, 60177151002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/04/14 10:29	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,2-Dichloroethane	ug/L	ND	1.0	09/04/14 10:29	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/04/14 10:29	
2-Butanone (MEK)	ug/L	ND	10.0	09/04/14 10:29	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/04/14 10:29	N2
Acetone	ug/L	ND	10.0	09/04/14 10:29	N2
Benzene	ug/L	ND	1.0	09/04/14 10:29	
Bromodichloromethane	ug/L	ND	1.0	09/04/14 10:29	
Bromoform	ug/L	ND	1.0	09/04/14 10:29	
Bromomethane	ug/L	ND	5.0	09/04/14 10:29	
Carbon tetrachloride	ug/L	ND	1.0	09/04/14 10:29	
Chloroethane	ug/L	ND	1.0	09/04/14 10:29	
Chloroform	ug/L	ND	1.0	09/04/14 10:29	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	N2
Ethylbenzene	ug/L	ND	1.0	09/04/14 10:29	
Methylene chloride	ug/L	ND	1.0	09/04/14 10:29	
Tetrachloroethene	ug/L	ND	1.0	09/04/14 10:29	
Toluene	ug/L	ND	1.0	09/04/14 10:29	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Trichloroethene	ug/L	ND	1.0	09/04/14 10:29	
Vinyl chloride	ug/L	ND	1.0	09/04/14 10:29	
Xylene (Total)	ug/L	ND	3.0	09/04/14 10:29	N2
1,2-Dichloroethane-d4 (S)	%	113	80-120	09/04/14 10:29	
4-Bromofluorobenzene (S)	%	99	80-120	09/04/14 10:29	
Toluene-d8 (S)	%	102	80-120	09/04/14 10:29	

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	25.0	125	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.3	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.2	101	67-124	
1,2-Dichloroethane	ug/L	20	19.0	95	70-126	
1,4-Dichlorobenzene	ug/L	20	19.5	98	74-120	
2-Butanone (MEK)	ug/L	100	105	105	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	95.1	95	59-131	N2
Acetone	ug/L	100	89.7	90	38-134	N2
Benzene	ug/L	20	18.9	94	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

LABORATORY CONTROL SAMPLE: 1437219

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.2	101	65-127	
Bromomethane	ug/L	20	20.8	104	13-157	
Carbon tetrachloride	ug/L	20	24.3	122	70-131	
Chloroethane	ug/L	20	21.1	105	47-133	
Chloroform	ug/L	20	24.0	120	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.7	103	68-127	N2
Ethylbenzene	ug/L	20	18.9	94	74-122	
Methylene chloride	ug/L	20	18.5	93	64-129	
Tetrachloroethene	ug/L	20	18.9	94	73-125	
Toluene	ug/L	20	18.7	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	66-129	
Trichloroethene	ug/L	20	19.0	95	71-123	
Vinyl chloride	ug/L	20	17.7	89	43-129	
Xylene (Total)	ug/L	60	57.7	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4350	109	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3820	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3840	96	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3620	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3700	92	33-140	
2-Butanone (MEK)	ug/L	46300	20000	63400	85	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	18800	92	40-160	N2
Acetone	ug/L	98800	20000	100000	8	10-160	M1,N2
Benzene	ug/L	ND	4000	3770	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3620	91	35-142	
Bromoform	ug/L	ND	4000	4070	102	45-142	
Bromomethane	ug/L	ND	4000	4080	102	10-158	
Carbon tetrachloride	ug/L	ND	4000	4310	108	70-140	
Chloroethane	ug/L	ND	4000	4060	101	19-152	
Chloroform	ug/L	ND	4000	4110	103	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3920	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	3820	95	40-142	
Methylene chloride	ug/L	ND	4000	3490	86	31-144	
Tetrachloroethene	ug/L	ND	4000	3870	97	64-148	
Toluene	ug/L	ND	4000	3490	87	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3900	98	54-151	
Trichloroethene	ug/L	ND	4000	3620	90	71-149	
Vinyl chloride	ug/L	ND	4000	4350	109	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 316-410
Pace Project No.: 60177151

MATRIX SPIKE SAMPLE: 1437220

Parameter	Units	60177026001 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)	%				107	80-120	
4-Bromofluorobenzene (S)	%				100	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 316-410
Pace Project No.: 60177151

QC Batch: OEXT/46005
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177151001

METHOD BLANK: 1437749
Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/08/14 08:44	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/08/14 08:44	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/08/14 08:44	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/08/14 08:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/08/14 08:44	
Hexachloroethane	ug/L	ND	5.0	09/08/14 08:44	
Naphthalene	ug/L	ND	5.0	09/08/14 08:44	
Nitrobenzene	ug/L	ND	5.0	09/08/14 08:44	
Pentachlorophenol	ug/L	ND	5.0	09/08/14 08:44	
Phenol	ug/L	ND	5.0	09/08/14 08:44	
2,4,6-Tribromophenol (S)	%	77	39-120	09/08/14 08:44	
2-Fluorobiphenyl (S)	%	69	39-120	09/08/14 08:44	
2-Fluorophenol (S)	%	36	17-120	09/08/14 08:44	
Nitrobenzene-d5 (S)	%	73	33-120	09/08/14 08:44	
Phenol-d6 (S)	%	25	11-120	09/08/14 08:44	
Terphenyl-d14 (S)	%	92	45-120	09/08/14 08:44	

LABORATORY CONTROL SAMPLE: 1437750

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	37.7	75	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	31.2	62	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.9	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	41.6	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.0	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	36.9	37	24-120	
Hexachloroethane	ug/L	50	37.2	74	43-113	
Naphthalene	ug/L	50	39.1	78	48-120	
Nitrobenzene	ug/L	50	43.2	86	48-120	
Pentachlorophenol	ug/L	50	51.5	103	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			82	39-120	
2-Fluorobiphenyl (S)	%			76	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			28	11-120	
Terphenyl-d14 (S)	%			87	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 316-410
Pace Project No.: 60177151

MATRIX SPIKE SAMPLE: 1437751

Parameter	Units	60177026001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3560	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3840	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4920	5000	8470	71	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3830J	77	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3580	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	2820	28	11-120	
Hexachloroethane	ug/L	ND	5000	3260	65	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	4210	84	38-120	
Pentachlorophenol	ug/L	ND	5000	6310	126	43-135	
Phenol	ug/L	7210	5000	9470	45	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				71	39-120	
2-Fluorophenol (S)	%				43	17-120	
Nitrobenzene-d5 (S)	%				108	33-120	
Phenol-d6 (S)	%				39	11-120	
Terphenyl-d14 (S)	%				79	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WET/50121
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177151001

METHOD BLANK: 1439371 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/08/14 15:13	

LABORATORY CONTROL SAMPLE: 1439372

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	37.6	94	78-114	

MATRIX SPIKE SAMPLE: 1439373

Parameter	Units	60176830009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	25.3	45.5	59.9	76	78-114	M1

SAMPLE DUPLICATE: 1439374

Parameter	Units	60177129001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.3J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WET/50122 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177151001

METHOD BLANK: 1439379 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/08/14 15:35	

LABORATORY CONTROL SAMPLE: 1439380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.2	116	64-132	

MATRIX SPIKE SAMPLE: 1439381

Parameter	Units	60176945002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.1	16.1	69	64-132	

SAMPLE DUPLICATE: 1439382

Parameter	Units	60177129001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WET/50108 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177151001

METHOD BLANK: 1439122 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/08/14 11:21	

SAMPLE DUPLICATE: 1439123

Parameter	Units	60177048007 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	25.0	27.0	8	10	

SAMPLE DUPLICATE: 1439124

Parameter	Units	60177163002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	64.0	56.0	13	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WET/50107
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177151001

SAMPLE DUPLICATE: 1439121

Parameter	Units	60177151001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WET/50069
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177151001

METHOD BLANK: 1437798 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/10/14 10:58	

LABORATORY CONTROL SAMPLE: 1437799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	188	95	85-115	

SAMPLE DUPLICATE: 1437800

Parameter	Units	60177211002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	552	510	8	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WETA/30904 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177151001

METHOD BLANK: 1439002 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/07/14 13:48	

LABORATORY CONTROL SAMPLE: 1439003

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

MATRIX SPIKE SAMPLE: 1439004

Parameter	Units	60177011003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.4	121	90-110	M1

MATRIX SPIKE SAMPLE: 1439005

Parameter	Units	60177035003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.16	2	2.3	105	90-110	

SAMPLE DUPLICATE: 1439006

Parameter	Units	60177139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.66	0.67	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

QC Batch: WETA/30922 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177151001

METHOD BLANK: 1439462 Matrix: Water
Associated Lab Samples: 60177151001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/10/14 06:37	

LABORATORY CONTROL SAMPLE: 1439463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.7	107	90-110	

MATRIX SPIKE SAMPLE: 1439464

Parameter	Units	60176968001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	15.9	50	65.0	98	90-110	

MATRIX SPIKE SAMPLE: 1439466

Parameter	Units	60176945002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	72.4	50	117	90	90-110	

SAMPLE DUPLICATE: 1439465

Parameter	Units	60177014001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	3150	3190	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

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.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-410
Pace Project No.: 60177151

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177151001	**316-410**	EPA 200.7	MPRP/28826	EPA 200.7	ICP/21730
60177151001	**316-410**	EPA 200.7	MPRP/28816	EPA 200.7	ICP/21720
60177151001	**316-410**	EPA 245.1	MERP/8785	EPA 245.1	MERC/8740
60177151001	**316-410**	EPA 245.1	MERP/8786	EPA 245.1	MERC/8741
60177151001	**316-410**	EPA 625	OEXT/46005	EPA 625	MSSV/14769
60177151001	**316-410**	EPA 624 Low	MSV/64162		
60177151002	**TRIP BLANK**	EPA 624 Low	MSV/64162		
60177151001	**316-410**	EPA 1664A	WET/50121		
60177151001	**316-410**	EPA 1664A	WET/50122		
60177151001	**316-410**	SM 2540D	WET/50108		
60177151001	**316-410**	SM 4500-H+B	WET/50107		
60177151001	**316-410**	SM 5210B	WET/50069	SM 5210B	WET/50165
60177151001	**316-410**	EPA 350.1	WETA/30904		
60177151001	**316-410**	EPA 410.4	WETA/30922		

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Sample Condition Upon Receipt

WO#: 60177151

60177151

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: 3.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: att 8/9/4

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 4.5 added 2mL 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 att / Lot # of added preservative 12787-19-8, 12513-2-3-2
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): CONFLEP		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	1 of 5 DERN headspace
		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: 8/4/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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)	60177151
1	2(BP2U) 1(BP3U) 316-410 45/20 50/4.0 1(BP3S) 1(OP3N)	OT	G	9/3/14	1014	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) 2(AG4U) 3(AG3S) 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			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	9-3-14	12:30	[signature]	9-3-14	12:30				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	9/4	0215	3.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] **DATE Signed:** 9/3/14

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

September 12, 2014

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

RE: Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 05, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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 316-411
Pace Project No.: 60177295

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 316-411
Pace Project No.: 60177295

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177295001	**316-411**	Water	09/04/14 12:46	09/05/14 01:35
60177295002	**TRIP BLANK**	Water	09/04/14 12:46	09/05/14 01:35

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177295001	**316-411**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177295002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Date: September 12, 2014

The sample volume received for volatile analysis for leachate sample 316-411 contained head space presence greater than 6mm. Per historical instructions, the analysis is complete and the presence noted.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Sample: 316-411 **Lab ID: 60177295001** Collected: 09/04/14 12:46 Received: 09/05/14 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	**19300**	ug/L	375	1	09/08/14 10:40	09/10/14 18:10	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:10	7440-36-0	
Arsenic	**845**	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/08/14 10:40	09/10/14 18:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:10	7440-43-9	
Chromium	**234**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:10	7440-47-3	
Cobalt	**39.7**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:10	7440-48-4	
Copper	**76.0**	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:10	7440-50-8	
Iron	**684000**	ug/L	250	1	09/08/14 10:40	09/10/14 18:10	7439-89-6	
Lead	**162**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:10	7439-92-1	
Nickel	**119**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/08/14 10:40	09/10/14 18:10	7782-49-2	
Silver	ND	ug/L	35.0	1	09/08/14 10:40	09/10/14 18:10	7440-22-4	
Thallium	ND	ug/L	100	1	09/08/14 10:40	09/10/14 18:10	7440-28-0	
Zinc	**6780**	ug/L	250	1	09/08/14 10:40	09/10/14 18:10	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1550**	ug/L	375	1	09/08/14 17:40	09/12/14 13:19	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:19	7440-36-0	
Arsenic, Dissolved	**574**	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:19	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/08/14 17:40	09/12/14 13:19	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:19	7440-43-9	
Chromium, Dissolved	**127**	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:19	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:19	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:19	7440-50-8	
Iron, Dissolved	**225000**	ug/L	250	1	09/08/14 17:40	09/12/14 13:19	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:19	7439-92-1	
Nickel, Dissolved	**56.4**	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:19	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/08/14 17:40	09/12/14 13:19	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/08/14 17:40	09/12/14 13:19	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/08/14 17:40	09/12/14 13:19	7440-28-0	
Zinc, Dissolved	**3110**	ug/L	250	1	09/08/14 17:40	09/12/14 13:19	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**23.8**	ug/L	6.0	1	09/09/14 10:37	09/09/14 15:36	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	09/09/14 10:37	09/09/14 16:00	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/09/14 00:00	09/10/14 13:09	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/09/14 00:00	09/10/14 13:09	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6030**	ug/L	4000	2	09/09/14 00:00	09/10/14 13:09		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Sample: 316-411 **Lab ID: 60177295001** Collected: 09/04/14 12:46 Received: 09/05/14 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	09/09/14 00:00	09/10/14 13:09	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	87-86-5	
Phenol	**9130**	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 13:09	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	143	%	33-120	2	09/09/14 00:00	09/10/14 13:09	4165-60-0	S0
2-Fluorobiphenyl (S)	85	%	39-120	2	09/09/14 00:00	09/10/14 13:09	321-60-8	
Terphenyl-d14 (S)	90	%	45-120	2	09/09/14 00:00	09/10/14 13:09	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	09/09/14 00:00	09/10/14 13:09	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	09/09/14 00:00	09/10/14 13:09	367-12-4	
2,4,6-Tribromophenol (S)	106	%	39-120	2	09/09/14 00:00	09/10/14 13:09	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**92400**	ug/L	2000	200		09/09/14 08:58	67-64-1	N2
Benzene	ND	ug/L	200	200		09/09/14 08:58	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/09/14 08:58	75-27-4	
Bromoform	ND	ug/L	200	200		09/09/14 08:58	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/09/14 08:58	74-83-9	
2-Butanone (MEK)	**40800**	ug/L	2000	200		09/09/14 08:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/09/14 08:58	56-23-5	
Chloroethane	ND	ug/L	200	200		09/09/14 08:58	75-00-3	
Chloroform	ND	ug/L	200	200		09/09/14 08:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/09/14 08:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/09/14 08:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 08:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 08:58	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/09/14 08:58	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/09/14 08:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/09/14 08:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/09/14 08:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/09/14 08:58	127-18-4	
Toluene	ND	ug/L	200	200		09/09/14 08:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/09/14 08:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/09/14 08:58	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/09/14 08:58	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/09/14 08:58	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/09/14 08:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		09/09/14 08:58	460-00-4	HS
Toluene-d8 (S)	101	%	80-120	200		09/09/14 08:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		09/09/14 08:58	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/09/14 08:58		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**632**	mg/L	5.0	1		09/09/14 14:40		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Sample: 316-411 **Lab ID: 60177295001** Collected: 09/04/14 12:46 Received: 09/05/14 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.7**	mg/L	5.0	1		09/09/14 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2260**	mg/L	5.0	1		09/10/14 10:14		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/08/14 08:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**23200**	mg/L	2.0	1	09/06/14 10:00	09/11/14 08:55		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**420**	mg/L	20.0	200		09/07/14 14:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**40400**	mg/L	5000	500		09/11/14 07:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Sample: TRIP BLANK **Lab ID: 60177295002** Collected: 09/04/14 12:46 Received: 09/05/14 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		09/09/14 07:56	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/09/14 07:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/09/14 07:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/09/14 07:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/09/14 07:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/09/14 07:56	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/09/14 07:56	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/09/14 07:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/09/14 07:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/09/14 07:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/09/14 07:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 07:56	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 07:56	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/09/14 07:56	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/09/14 07:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/09/14 07:56	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/09/14 07:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/09/14 07:56	127-18-4	
Toluene	ND	ug/L	1.0	1		09/09/14 07:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/09/14 07:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/09/14 07:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/09/14 07:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/09/14 07:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/09/14 07:56	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		09/09/14 07:56	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		09/09/14 07:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		09/09/14 07:56	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/09/14 07:56		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: MERP/8785
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177295001

METHOD BLANK: 1439614 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/09/14 14:40	

LABORATORY CONTROL SAMPLE: 1439615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439616 1439617

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	20.7	150	150	150	131	86	74	70-130	13	20	

MATRIX SPIKE SAMPLE: 1439618

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	23.8	150	132	72	70-130	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: MERP/8786
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177295001

METHOD BLANK: 1439619 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/09/14 15:45	

LABORATORY CONTROL SAMPLE: 1439620

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: 1439621 1439622

Parameter	Units	60177151001 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	97.8	91.2	65	61	70-130	7	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: MPRP/28826
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177295001

METHOD BLANK: 1439053
Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/10/14 17:58	
Antimony	ug/L	ND	10.0	09/10/14 17:58	
Arsenic	ug/L	ND	10.0	09/10/14 17:58	
Beryllium	ug/L	ND	1.0	09/10/14 17:58	
Cadmium	ug/L	ND	5.0	09/10/14 17:58	
Chromium	ug/L	ND	5.0	09/10/14 17:58	
Cobalt	ug/L	ND	5.0	09/10/14 17:58	
Copper	ug/L	ND	10.0	09/10/14 17:58	
Iron	ug/L	ND	50.0	09/10/14 17:58	
Lead	ug/L	ND	5.0	09/10/14 17:58	
Nickel	ug/L	ND	5.0	09/10/14 17:58	
Selenium	ug/L	ND	15.0	09/10/14 17:58	
Silver	ug/L	ND	7.0	09/10/14 17:58	
Thallium	ug/L	ND	20.0	09/10/14 17:58	
Zinc	ug/L	ND	50.0	09/10/14 17:58	

LABORATORY CONTROL SAMPLE: 1439054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1050	105	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	516	103	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1040	104	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439055 1439056

Parameter	Units	60177151001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8090	50000	50000	63300	63500	110	111	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5420	5300	108	105	70-130	2	7	
Arsenic	ug/L	913	5000	5000	6150	6140	105	104	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5020	4950	100	99	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5340	5260	107	105	70-130	1	10	
Chromium	ug/L	222	5000	5000	5140	5140	98	98	70-130	0	10	
Cobalt	ug/L	32.1	5000	5000	5020	4970	100	99	70-130	1	6	
Copper	ug/L	ND	5000	5000	5280	5160	105	103	70-130	2	11	
Iron	ug/L	694000	50000	50000	662000	722000	-65	57	70-130	9	10	M1
Lead	ug/L	97.2	5000	5000	4950	4880	97	96	70-130	1	10	
Nickel	ug/L	104	5000	5000	5080	5000	100	98	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5580	5540	111	110	70-130	1	10	
Silver	ug/L	ND	2500	2500	2640	2600	105	104	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4490	91	90	70-130	2	6	
Zinc	ug/L	4700	5000	5000	8900	9260	84	91	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: MPRP/28843
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177295001

METHOD BLANK: 1439427
Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 13:14	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 13:14	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 13:14	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 13:14	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 13:14	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 13:14	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 13:14	

LABORATORY CONTROL SAMPLE: 1439428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9970	100	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	994	99	85-115	
Chromium, Dissolved	ug/L	1000	1000	100	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	994	99	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	977	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	996	100	85-115	
Zinc, Dissolved	ug/L	1000	1000	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439429 1439430

Parameter	Units	60177295001 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	1550	50000	50000	52100	52400	101	102	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5250	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	574	5000	5000	5840	5780	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4950	4970	99	99	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5200	5160	104	103	70-130	1	10	
Chromium, Dissolved	ug/L	127	5000	5000	5070	5040	99	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5000	4960	100	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5160	5150	103	103	70-130	0	11	
Iron, Dissolved	ug/L	225000	50000	50000	278000	271000	107	92	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4810	96	96	70-130	0	10	
Nickel, Dissolved	ug/L	56.4	5000	5000	5000	4960	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5400	5360	108	107	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2600	2600	104	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4580	4560	92	91	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7950	7800	97	94	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: MSV/64234
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60177295001, 60177295002

METHOD BLANK: 1439259
Matrix: Water
Associated Lab Samples: 60177295001, 60177295002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/09/14 05:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,2-Dichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/09/14 05:37	
2-Butanone (MEK)	ug/L	ND	10.0	09/09/14 05:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/09/14 05:37	N2
Acetone	ug/L	ND	10.0	09/09/14 05:37	N2
Benzene	ug/L	ND	1.0	09/09/14 05:37	
Bromodichloromethane	ug/L	ND	1.0	09/09/14 05:37	
Bromoform	ug/L	ND	1.0	09/09/14 05:37	
Bromomethane	ug/L	ND	5.0	09/09/14 05:37	
Carbon tetrachloride	ug/L	ND	1.0	09/09/14 05:37	
Chloroethane	ug/L	ND	1.0	09/09/14 05:37	
Chloroform	ug/L	ND	1.0	09/09/14 05:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 05:37	N2
Ethylbenzene	ug/L	ND	1.0	09/09/14 05:37	
Methylene chloride	ug/L	ND	1.0	09/09/14 05:37	
Tetrachloroethene	ug/L	ND	1.0	09/09/14 05:37	
Toluene	ug/L	ND	1.0	09/09/14 05:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 05:37	
Trichloroethene	ug/L	ND	1.0	09/09/14 05:37	
Vinyl chloride	ug/L	ND	1.0	09/09/14 05:37	
Xylene (Total)	ug/L	ND	3.0	09/09/14 05:37	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/09/14 05:37	
4-Bromofluorobenzene (S)	%	98	80-120	09/09/14 05:37	
Toluene-d8 (S)	%	100	80-120	09/09/14 05:37	

LABORATORY CONTROL SAMPLE: 1439260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.0	95	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.6	103	67-124	
1,2-Dichloroethane	ug/L	20	19.9	99	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	86.8	87	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.3	98	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	18.4	92	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

LABORATORY CONTROL SAMPLE: 1439260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	20.5	103	65-127	
Bromomethane	ug/L	20	21.0	105	13-157	
Carbon tetrachloride	ug/L	20	17.9	89	70-131	
Chloroethane	ug/L	20	21.1	106	47-133	
Chloroform	ug/L	20	19.0	95	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	20.8	104	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	18.7	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.4	102	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	21.5	108	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1439262

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4240	106	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3700	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3660	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3980	98	33-140	
2-Butanone (MEK)	ug/L	40800	20000	59100	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17700	86	40-160	N2
Acetone	ug/L	92400	20000	103000	55	10-160	N2
Benzene	ug/L	ND	4000	3530	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-142	
Bromoform	ug/L	ND	4000	3880	97	45-142	
Bromomethane	ug/L	ND	4000	4000	100	10-158	
Carbon tetrachloride	ug/L	ND	4000	3840	96	70-140	
Chloroethane	ug/L	ND	4000	4050	101	19-152	
Chloroform	ug/L	ND	4000	3880	97	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3930	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	3780	95	40-142	
Methylene chloride	ug/L	ND	4000	3640	89	31-144	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3570	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	3750	94	71-149	
Vinyl chloride	ug/L	ND	4000	4140	103	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

MATRIX SPIKE SAMPLE: 1439262

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11800	99	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: OEXT/46049
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177295001

METHOD BLANK: 1439471
Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/10/14 12:28	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/10/14 12:28	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/10/14 12:28	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/10/14 12:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachloroethane	ug/L	ND	5.0	09/10/14 12:28	
Naphthalene	ug/L	ND	5.0	09/10/14 12:28	
Nitrobenzene	ug/L	ND	5.0	09/10/14 12:28	
Pentachlorophenol	ug/L	ND	5.0	09/10/14 12:28	
Phenol	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Tribromophenol (S)	%	89	39-120	09/10/14 12:28	
2-Fluorobiphenyl (S)	%	86	39-120	09/10/14 12:28	
2-Fluorophenol (S)	%	40	17-120	09/10/14 12:28	
Nitrobenzene-d5 (S)	%	85	33-120	09/10/14 12:28	
Phenol-d6 (S)	%	30	11-120	09/10/14 12:28	
Terphenyl-d14 (S)	%	89	45-120	09/10/14 12:28	

LABORATORY CONTROL SAMPLE: 1439472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.8	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.0	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.4	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.6	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.5	57	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	41.1	82	48-120	
Nitrobenzene	ug/L	50	42.6	85	48-120	
Pentachlorophenol	ug/L	50	51.7	103	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			53	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

MATRIX SPIKE SAMPLE: 1439473

Parameter	Units	60177351001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	57.5	38.2	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	57.5	60.9	106	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	57.5	43.1	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	57.5	40.2	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	57.5	77.8	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	57.5	31.4	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	115	54.7	48	11-120	
Hexachloroethane	ug/L	ND	57.5	31.0	54	40-113	
Naphthalene	ug/L	ND	57.5	40.4	70	45-120	
Nitrobenzene	ug/L	ND	57.5	47.9	83	38-120	
Pentachlorophenol	ug/L	ND	57.5	75.6	132	43-135	
Phenol	ug/L	ND	57.5	20.3	35	13-112	
2,4,6-Tribromophenol (S)	%				112	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				84	33-120	
Phenol-d6 (S)	%				32	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 316-411
Pace Project No.: 60177295

QC Batch: WET/50144
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177295001

METHOD BLANK: 1439963 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/09/14 14:38	

LABORATORY CONTROL SAMPLE: 1439964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.5	104	78-114	

MATRIX SPIKE SAMPLE: 1439966

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.4	98	78-114	

SAMPLE DUPLICATE: 1439965

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	324	335	3	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 316-411
Pace Project No.: 60177295

QC Batch: WET/50148 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177295001

METHOD BLANK: 1439978 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/14 14:47	

LABORATORY CONTROL SAMPLE: 1439979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.5	102	64-132	

MATRIX SPIKE SAMPLE: 1439981

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	12.9	60	64-132	M1

SAMPLE DUPLICATE: 1439980

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.0	8.3	32	34	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: WET/50157
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177295001

METHOD BLANK: 1440279
Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/10/14 10:03	

SAMPLE DUPLICATE: 1440280

Parameter	Units	60177286001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	8.0	29	10	D6

SAMPLE DUPLICATE: 1440281

Parameter	Units	60177288001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	60.0	56.0	7	10	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: WET/50107
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177295001

SAMPLE DUPLICATE: 1439121

Parameter	Units	60177151001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: WET/50096 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177295001

METHOD BLANK: 1438600 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/11/14 08:19	

LABORATORY CONTROL SAMPLE: 1438601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	92	85-115	

SAMPLE DUPLICATE: 1438602

Parameter	Units	60177188004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	88.5	82.4	7	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

QC Batch: WETA/30905 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177295001

METHOD BLANK: 1439007 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/07/14 14:23	

LABORATORY CONTROL SAMPLE: 1439008

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

MATRIX SPIKE SAMPLE: 1439009

Parameter	Units	60177307001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	4.9	2	6.4	76	90-110	M1

MATRIX SPIKE SAMPLE: 1439010

Parameter	Units	60177353001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	100	90-110	

SAMPLE DUPLICATE: 1439011

Parameter	Units	60177037002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.13	0.13	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 316-411
Pace Project No.: 60177295

QC Batch: WETA/30941 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177295001

METHOD BLANK: 1440207 Matrix: Water
Associated Lab Samples: 60177295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/11/14 07:14	

LABORATORY CONTROL SAMPLE: 1440208

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

MATRIX SPIKE SAMPLE: 1440209

Parameter	Units	60176781001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	361	250	614	102	90-110	

MATRIX SPIKE SAMPLE: 1440211

Parameter	Units	60177417001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	40200	25000	64300	96	90-110	

SAMPLE DUPLICATE: 1440210

Parameter	Units	60176818002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.8	25.9	4	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

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.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-411
Pace Project No.: 60177295

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177295001	**316-411**	EPA 200.7	MPRP/28826	EPA 200.7	ICP/21730
60177295001	**316-411**	EPA 200.7	MPRP/28843	EPA 200.7	ICP/21739
60177295001	**316-411**	EPA 245.1	MERP/8785	EPA 245.1	MERC/8740
60177295001	**316-411**	EPA 245.1	MERP/8786	EPA 245.1	MERC/8741
60177295001	**316-411**	EPA 625	OEXT/46049	EPA 625	MSSV/14788
60177295001	**316-411**	EPA 624 Low	MSV/64234		
60177295002	**TRIP BLANK**	EPA 624 Low	MSV/64234		
60177295001	**316-411**	EPA 1664A	WET/50144		
60177295001	**316-411**	EPA 1664A	WET/50148		
60177295001	**316-411**	SM 2540D	WET/50157		
60177295001	**316-411**	SM 4500-H+B	WET/50107		
60177295001	**316-411**	SM 5210B	WET/50096	SM 5210B	WET/50185
60177295001	**316-411**	EPA 350.1	WETA/30905		
60177295001	**316-411**	EPA 410.4	WETA/30941		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60177295

60177295

Client Name: Barr Engineering

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: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 9/5

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☐Yes ☒No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial pH 4.0 added 1ml Final pH 4.0 BP3N initial pH 6.0 added 20ml Final pH 5.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed JB / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 8/26/14		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	5 of 5 DG9H
		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: 9/8

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

4.0

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)	60177795
1	(2)BP2U BP3U 3/6-4/1(3)AG3S (2)AG4U BP3S	OT	G	9/4/14	1246				15	10	4	1	0	BP3U 3.0				Requested Analysis Filtered (Y/N)	X	X	X	X	X	X	X	X	X	X	(5)	DG9U	a/
2	TRIP BLANK (2) DG9U								2	2															X					av
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				Pace	9/5	0135	2.2	Y	N	Y
SITE ADDRESS: BRIDGETON LF										
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	WILLIAM ABERNATHY	TEMP in C	Received on Ice (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 9/4/14	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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

September 15, 2014

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

RE: Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 06, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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 316-412
Pace Project No.: 60177417

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 316-412
Pace Project No.: 60177417

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177417001	**316-412**	Water	09/05/14 08:44	09/06/14 01:20
60177417002	**TRIP BLANK**	Water	09/05/14 08:44	09/06/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177417001	**316-412**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177417002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Sample: 316-412 **Lab ID: 60177417001** Collected: 09/05/14 08:44 Received: 09/06/14 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	**2470**	ug/L	375	1	09/08/14 10:40	09/10/14 18:12	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:12	7440-36-0	
Arsenic	**738**	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:12	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/08/14 10:40	09/10/14 18:12	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:12	7440-43-9	
Chromium	**150**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:12	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:12	7440-48-4	
Copper	ND	ug/L	50.0	1	09/08/14 10:40	09/10/14 18:12	7440-50-8	
Iron	**285000**	ug/L	250	1	09/08/14 10:40	09/10/14 18:12	7439-89-6	
Lead	ND	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:12	7439-92-1	
Nickel	**79.0**	ug/L	25.0	1	09/08/14 10:40	09/10/14 18:12	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/08/14 10:40	09/10/14 18:12	7782-49-2	
Silver	ND	ug/L	35.0	1	09/08/14 10:40	09/10/14 18:12	7440-22-4	
Thallium	ND	ug/L	100	1	09/08/14 10:40	09/10/14 18:12	7440-28-0	
Zinc	**3720**	ug/L	250	1	09/08/14 10:40	09/10/14 18:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1540**	ug/L	375	1	09/08/14 17:40	09/12/14 13:42	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:42	7440-36-0	
Arsenic, Dissolved	**578**	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:42	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/08/14 17:40	09/12/14 13:42	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:42	7440-43-9	
Chromium, Dissolved	**123**	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:42	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:42	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/08/14 17:40	09/12/14 13:42	7440-50-8	
Iron, Dissolved	**229000**	ug/L	250	1	09/08/14 17:40	09/12/14 13:42	7439-89-6	
Lead, Dissolved	**27.5**	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:42	7439-92-1	
Nickel, Dissolved	**58.3**	ug/L	25.0	1	09/08/14 17:40	09/12/14 13:42	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/08/14 17:40	09/12/14 13:42	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/08/14 17:40	09/12/14 13:42	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/08/14 17:40	09/12/14 13:42	7440-28-0	
Zinc, Dissolved	**2850**	ug/L	250	1	09/08/14 17:40	09/12/14 13:42	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**35.1**	ug/L	6.0	1	09/09/14 10:37	09/09/14 15:43	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	09/09/14 10:37	09/09/14 16:03	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/09/14 00:00	09/10/14 15:34	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/09/14 00:00	09/10/14 15:34	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7090**	ug/L	4000	2	09/09/14 00:00	09/10/14 15:34		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Sample: 316-412 **Lab ID: 60177417001** Collected: 09/05/14 08:44 Received: 09/06/14 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	09/09/14 00:00	09/10/14 15:34	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	87-86-5	
Phenol	**10300**	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:34	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	141	%	33-120	2	09/09/14 00:00	09/10/14 15:34	4165-60-0	S0
2-Fluorobiphenyl (S)	85	%	39-120	2	09/09/14 00:00	09/10/14 15:34	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	09/09/14 00:00	09/10/14 15:34	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	09/09/14 00:00	09/10/14 15:34	13127-88-3	
2-Fluorophenol (S)	55	%	17-120	2	09/09/14 00:00	09/10/14 15:34	367-12-4	
2,4,6-Tribromophenol (S)	107	%	39-120	2	09/09/14 00:00	09/10/14 15:34	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**86600**	ug/L	2000	200		09/09/14 09:29	67-64-1	N2
Benzene	ND	ug/L	200	200		09/09/14 09:29	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/09/14 09:29	75-27-4	
Bromoform	ND	ug/L	200	200		09/09/14 09:29	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/09/14 09:29	74-83-9	
2-Butanone (MEK)	**38000**	ug/L	2000	200		09/09/14 09:29	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/09/14 09:29	56-23-5	
Chloroethane	ND	ug/L	200	200		09/09/14 09:29	75-00-3	
Chloroform	ND	ug/L	200	200		09/09/14 09:29	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/09/14 09:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/09/14 09:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 09:29	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 09:29	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/09/14 09:29	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/09/14 09:29	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/09/14 09:29	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/09/14 09:29	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/09/14 09:29	127-18-4	
Toluene	ND	ug/L	200	200		09/09/14 09:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/09/14 09:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/09/14 09:29	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/09/14 09:29	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/09/14 09:29	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/09/14 09:29	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/09/14 09:29	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		09/09/14 09:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		09/09/14 09:29	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/09/14 09:29		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**415**	mg/L	5.0	1		09/09/14 14:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Sample: 316-412 **Lab ID: 60177417001** Collected: 09/05/14 08:44 Received: 09/06/14 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	**11.2**	mg/L	5.0	1		09/09/14 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2670**	mg/L	5.0	1		09/12/14 15:53		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/08/14 08:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**22400**	mg/L	2.0	1	09/06/14 11:45	09/11/14 12:17		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**432**	mg/L	20.0	200		09/07/14 14:47	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**40200**	mg/L	5000	500		09/11/14 07:31		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Sample: TRIP BLANK **Lab ID: 60177417002** Collected: 09/05/14 08:44 Received: 09/06/14 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		09/09/14 08:27	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/09/14 08:27	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/09/14 08:27	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/09/14 08:27	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/09/14 08:27	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/09/14 08:27	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/09/14 08:27	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/09/14 08:27	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/09/14 08:27	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/09/14 08:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/09/14 08:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 08:27	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 08:27	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/09/14 08:27	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/09/14 08:27	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/09/14 08:27	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/09/14 08:27	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/09/14 08:27	127-18-4	
Toluene	ND	ug/L	1.0	1		09/09/14 08:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/09/14 08:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/09/14 08:27	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/09/14 08:27	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/09/14 08:27	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/09/14 08:27	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		09/09/14 08:27	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/09/14 08:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		09/09/14 08:27	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/09/14 08:27		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: MERP/8785
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177417001

METHOD BLANK: 1439614 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/09/14 14:40	

LABORATORY CONTROL SAMPLE: 1439615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439616 1439617

Parameter	Units	60177026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	20.7	150	150	150	131	86	74	70-130	13	20	

MATRIX SPIKE SAMPLE: 1439618

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	23.8	150	132	72	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: MERP/8786
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177417001

METHOD BLANK: 1439619 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/09/14 15:45	

LABORATORY CONTROL SAMPLE: 1439620

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: 1439621 1439622

Parameter	Units	60177151001 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	97.8	91.2	65	61	70-130	7	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: MPRP/28826
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177417001

METHOD BLANK: 1439053
Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/10/14 17:58	
Antimony	ug/L	ND	10.0	09/10/14 17:58	
Arsenic	ug/L	ND	10.0	09/10/14 17:58	
Beryllium	ug/L	ND	1.0	09/10/14 17:58	
Cadmium	ug/L	ND	5.0	09/10/14 17:58	
Chromium	ug/L	ND	5.0	09/10/14 17:58	
Cobalt	ug/L	ND	5.0	09/10/14 17:58	
Copper	ug/L	ND	10.0	09/10/14 17:58	
Iron	ug/L	ND	50.0	09/10/14 17:58	
Lead	ug/L	ND	5.0	09/10/14 17:58	
Nickel	ug/L	ND	5.0	09/10/14 17:58	
Selenium	ug/L	ND	15.0	09/10/14 17:58	
Silver	ug/L	ND	7.0	09/10/14 17:58	
Thallium	ug/L	ND	20.0	09/10/14 17:58	
Zinc	ug/L	ND	50.0	09/10/14 17:58	

LABORATORY CONTROL SAMPLE: 1439054

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	1050	105	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	10400	104	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	516	103	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1040	104	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439055 1439056

Parameter	Units	60177151001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8090	50000	50000	63300	63500	110	111	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5420	5300	108	105	70-130	2	7	
Arsenic	ug/L	913	5000	5000	6150	6140	105	104	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	5020	4950	100	99	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5340	5260	107	105	70-130	1	10	
Chromium	ug/L	222	5000	5000	5140	5140	98	98	70-130	0	10	
Cobalt	ug/L	32.1	5000	5000	5020	4970	100	99	70-130	1	6	
Copper	ug/L	ND	5000	5000	5280	5160	105	103	70-130	2	11	
Iron	ug/L	694000	50000	50000	662000	722000	-65	57	70-130	9	10	M1
Lead	ug/L	97.2	5000	5000	4950	4880	97	96	70-130	1	10	
Nickel	ug/L	104	5000	5000	5080	5000	100	98	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5580	5540	111	110	70-130	1	10	
Silver	ug/L	ND	2500	2500	2640	2600	105	104	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4490	91	90	70-130	2	6	
Zinc	ug/L	4700	5000	5000	8900	9260	84	91	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: MPRP/28843
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177417001

METHOD BLANK: 1439427
Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 13:14	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 13:14	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 13:14	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 13:14	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 13:14	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 13:14	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 13:14	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 13:14	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 13:14	

LABORATORY CONTROL SAMPLE: 1439428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9970	100	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	994	99	85-115	
Chromium, Dissolved	ug/L	1000	1000	100	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	994	99	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	977	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	996	100	85-115	
Zinc, Dissolved	ug/L	1000	1000	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439429 1439430

Parameter	Units	60177295001 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	1550	50000	50000	52100	52400	101	102	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5280	5250	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	574	5000	5000	5840	5780	105	104	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4950	4970	99	99	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5200	5160	104	103	70-130	1	10	
Chromium, Dissolved	ug/L	127	5000	5000	5070	5040	99	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5000	4960	100	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5160	5150	103	103	70-130	0	11	
Iron, Dissolved	ug/L	225000	50000	50000	278000	271000	107	92	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4810	96	96	70-130	0	10	
Nickel, Dissolved	ug/L	56.4	5000	5000	5000	4960	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5400	5360	108	107	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2600	2600	104	104	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4580	4560	92	91	70-130	1	6	
Zinc, Dissolved	ug/L	3110	5000	5000	7950	7800	97	94	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: MSV/64234 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177417001, 60177417002

METHOD BLANK: 1439259 Matrix: Water
Associated Lab Samples: 60177417001, 60177417002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/09/14 05:37	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,2-Dichloroethane	ug/L	ND	1.0	09/09/14 05:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/09/14 05:37	
2-Butanone (MEK)	ug/L	ND	10.0	09/09/14 05:37	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/09/14 05:37	N2
Acetone	ug/L	ND	10.0	09/09/14 05:37	N2
Benzene	ug/L	ND	1.0	09/09/14 05:37	
Bromodichloromethane	ug/L	ND	1.0	09/09/14 05:37	
Bromoform	ug/L	ND	1.0	09/09/14 05:37	
Bromomethane	ug/L	ND	5.0	09/09/14 05:37	
Carbon tetrachloride	ug/L	ND	1.0	09/09/14 05:37	
Chloroethane	ug/L	ND	1.0	09/09/14 05:37	
Chloroform	ug/L	ND	1.0	09/09/14 05:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 05:37	N2
Ethylbenzene	ug/L	ND	1.0	09/09/14 05:37	
Methylene chloride	ug/L	ND	1.0	09/09/14 05:37	
Tetrachloroethene	ug/L	ND	1.0	09/09/14 05:37	
Toluene	ug/L	ND	1.0	09/09/14 05:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 05:37	
Trichloroethene	ug/L	ND	1.0	09/09/14 05:37	
Vinyl chloride	ug/L	ND	1.0	09/09/14 05:37	
Xylene (Total)	ug/L	ND	3.0	09/09/14 05:37	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/09/14 05:37	
4-Bromofluorobenzene (S)	%	98	80-120	09/09/14 05:37	
Toluene-d8 (S)	%	100	80-120	09/09/14 05:37	

LABORATORY CONTROL SAMPLE: 1439260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.0	95	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.6	103	67-124	
1,2-Dichloroethane	ug/L	20	19.9	99	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	86.8	87	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	98.3	98	59-131	N2
Acetone	ug/L	100	106	106	38-134	N2
Benzene	ug/L	20	18.4	92	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

LABORATORY CONTROL SAMPLE: 1439260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.6	103	68-125	
Bromoform	ug/L	20	20.5	103	65-127	
Bromomethane	ug/L	20	21.0	105	13-157	
Carbon tetrachloride	ug/L	20	17.9	89	70-131	
Chloroethane	ug/L	20	21.1	106	47-133	
Chloroform	ug/L	20	19.0	95	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	20.8	104	64-129	
Tetrachloroethene	ug/L	20	19.2	96	73-125	
Toluene	ug/L	20	18.7	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.4	102	66-129	
Trichloroethene	ug/L	20	19.4	97	71-123	
Vinyl chloride	ug/L	20	21.5	108	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1439262

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4240	106	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3700	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3660	91	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3980	98	33-140	
2-Butanone (MEK)	ug/L	40800	20000	59100	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17700	86	40-160	N2
Acetone	ug/L	92400	20000	103000	55	10-160	N2
Benzene	ug/L	ND	4000	3530	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-142	
Bromoform	ug/L	ND	4000	3880	97	45-142	
Bromomethane	ug/L	ND	4000	4000	100	10-158	
Carbon tetrachloride	ug/L	ND	4000	3840	96	70-140	
Chloroethane	ug/L	ND	4000	4050	101	19-152	
Chloroform	ug/L	ND	4000	3880	97	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3930	98	34-147	N2
Ethylbenzene	ug/L	ND	4000	3780	95	40-142	
Methylene chloride	ug/L	ND	4000	3640	89	31-144	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3570	89	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4130	103	54-151	
Trichloroethene	ug/L	ND	4000	3750	94	71-149	
Vinyl chloride	ug/L	ND	4000	4140	103	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

MATRIX SPIKE SAMPLE: 1439262

Parameter	Units	60177295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11800	99	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	HS
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 316-412
Pace Project No.: 60177417

QC Batch: OEXT/46049
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177417001

METHOD BLANK: 1439471
Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/10/14 12:28	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/10/14 12:28	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/10/14 12:28	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/10/14 12:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachloroethane	ug/L	ND	5.0	09/10/14 12:28	
Naphthalene	ug/L	ND	5.0	09/10/14 12:28	
Nitrobenzene	ug/L	ND	5.0	09/10/14 12:28	
Pentachlorophenol	ug/L	ND	5.0	09/10/14 12:28	
Phenol	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Tribromophenol (S)	%	89	39-120	09/10/14 12:28	
2-Fluorobiphenyl (S)	%	86	39-120	09/10/14 12:28	
2-Fluorophenol (S)	%	40	17-120	09/10/14 12:28	
Nitrobenzene-d5 (S)	%	85	33-120	09/10/14 12:28	
Phenol-d6 (S)	%	30	11-120	09/10/14 12:28	
Terphenyl-d14 (S)	%	89	45-120	09/10/14 12:28	

LABORATORY CONTROL SAMPLE: 1439472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.8	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.0	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.4	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.6	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.5	57	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	41.1	82	48-120	
Nitrobenzene	ug/L	50	42.6	85	48-120	
Pentachlorophenol	ug/L	50	51.7	103	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			53	17-120	
Nitrobenzene-d5 (S)	%			87	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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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

MATRIX SPIKE SAMPLE: 1439473

Parameter	Units	60177351001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	57.5	38.2	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	57.5	60.9	106	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	57.5	43.1	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	57.5	40.2	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	57.5	77.8	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	57.5	31.4	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	115	54.7	48	11-120	
Hexachloroethane	ug/L	ND	57.5	31.0	54	40-113	
Naphthalene	ug/L	ND	57.5	40.4	70	45-120	
Nitrobenzene	ug/L	ND	57.5	47.9	83	38-120	
Pentachlorophenol	ug/L	ND	57.5	75.6	132	43-135	
Phenol	ug/L	ND	57.5	20.3	35	13-112	
2,4,6-Tribromophenol (S)	%				112	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				84	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WET/50144
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177417001

METHOD BLANK: 1439963 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/09/14 14:38	

LABORATORY CONTROL SAMPLE: 1439964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.5	104	78-114	

MATRIX SPIKE SAMPLE: 1439966

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.4	98	78-114	

SAMPLE DUPLICATE: 1439965

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	324	335	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WET/50148 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177417001

METHOD BLANK: 1439978 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/14 14:47	

LABORATORY CONTROL SAMPLE: 1439979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.5	102	64-132	

MATRIX SPIKE SAMPLE: 1439981

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	12.9	60	64-132	M1

SAMPLE DUPLICATE: 1439980

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.0	8.3	32	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WET/50159 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177417001

METHOD BLANK: 1440287 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/12/14 15:52	

SAMPLE DUPLICATE: 1440288

Parameter	Units	60177417001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2670	2470	8	10	

SAMPLE DUPLICATE: 1440289

Parameter	Units	60177418004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1300	1600	21	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WET/50107
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177417001

SAMPLE DUPLICATE: 1439121

Parameter	Units	60177151001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WET/50098
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177417001

METHOD BLANK: 1438686 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/11/14 12:05	

LABORATORY CONTROL SAMPLE: 1438687

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

SAMPLE DUPLICATE: 1438688

Parameter	Units	60177419004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1420	1430	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WETA/30905 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177417001

METHOD BLANK: 1439007 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/07/14 14:23	

LABORATORY CONTROL SAMPLE: 1439008

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

MATRIX SPIKE SAMPLE: 1439009

Parameter	Units	60177307001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	4.9	2	6.4	76	90-110	M1

MATRIX SPIKE SAMPLE: 1439010

Parameter	Units	60177353001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	100	90-110	

SAMPLE DUPLICATE: 1439011

Parameter	Units	60177037002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.13	0.13	2	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

QC Batch: WETA/30941 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177417001

METHOD BLANK: 1440207 Matrix: Water
Associated Lab Samples: 60177417001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/11/14 07:14	

LABORATORY CONTROL SAMPLE: 1440208

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

MATRIX SPIKE SAMPLE: 1440209

Parameter	Units	60176781001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	361	250	614	102	90-110	

MATRIX SPIKE SAMPLE: 1440211

Parameter	Units	60177417001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	40200	25000	64300	96	90-110	

SAMPLE DUPLICATE: 1440210

Parameter	Units	60176818002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.8	25.9	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.
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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

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.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-412
Pace Project No.: 60177417

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177417001	**316-412**	EPA 200.7	MPRP/28826	EPA 200.7	ICP/21730
60177417001	**316-412**	EPA 200.7	MPRP/28843	EPA 200.7	ICP/21739
60177417001	**316-412**	EPA 245.1	MERP/8785	EPA 245.1	MERC/8740
60177417001	**316-412**	EPA 245.1	MERP/8786	EPA 245.1	MERC/8741
60177417001	**316-412**	EPA 625	OEXT/46049	EPA 625	MSSV/14788
60177417001	**316-412**	EPA 624 Low	MSV/64234		
60177417002	**TRIP BLANK**	EPA 624 Low	MSV/64234		
60177417001	**316-412**	EPA 1664A	WET/50144		
60177417001	**316-412**	EPA 1664A	WET/50148		
60177417001	**316-412**	SM 2540D	WET/50159		
60177417001	**316-412**	SM 4500-H+B	WET/50107		
60177417001	**316-412**	SM 5210B	WET/50098	SM 5210B	WET/50198
60177417001	**316-412**	EPA 350.1	WETA/30905		
60177417001	**316-412**	EPA 410.4	WETA/30941		

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Sample Condition Upon Receipt

WO# : 60177417

60177417

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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 ☑ zpac

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

Cooler Temperature: 5.2

Temperature should be above freezing to 6°C

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

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 4.5 added 2.5mL HNO3 final pH 4.0 BP3S initial pH 4.5 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 ad 9/6	☑Yes ☐No	Initial when completed ad	Lot # of added preservative 12513-2-3-2 12587-19-8
Trip Blank present:	☑Yes ☐No ☐N/A		
Pace Trip Blank lot # (if purchased): COVERED		15.	
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	4 of 5 DG9U headspace	
		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: 9/8/14

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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

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	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)	60177417
1	2(BP2U) 1(BP3U) 316-412 1(BP3S) 1(BP3N) 45/3.0 45/4.0	OT	G	9/5/14	0844	—	—		~~14~~ 15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) ~~5(DG9U)~~ 9/5 3(AG3S) 2(AG4U)
2	TRIP BLANK	—		—		—			2	2																X						2(DG9U)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

w1 w2

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEEZOR	9/5/14	120pm	Aldo Susic	9/5	1:20				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	9/6	0120	5.2	Y	N	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/5/14

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

September 15, 2014

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

RE: Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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 316-413
Pace Project No.: 60177473

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 316-413
Pace Project No.: 60177473

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177473001	**316-413**	Water	09/06/14 16:30	09/08/14 13:00
60177473002	**TRIP BLANK**	Water	09/06/14 16:30	09/08/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177473001	**316-413**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177473002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Date: September 15, 2014

The sample volume received for volatile analysis for leachate sample 316-413 contained head space presence greater than 6mm. Per historical instructions, the analysis is complete and the presence noted.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Sample: 316-413 **Lab ID: 60177473001** Collected: 09/06/14 16:30 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**20600**	ug/L	375	1	09/09/14 17:10	09/12/14 17:17	7429-90-5	M1
Antimony	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:17	7440-36-0	
Arsenic	**879**	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:17	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/09/14 17:10	09/12/14 17:17	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:17	7440-43-9	
Chromium	**268**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:17	7440-47-3	
Cobalt	**36.0**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:17	7440-48-4	
Copper	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:17	7440-50-8	
Iron	**730000**	ug/L	250	1	09/09/14 17:10	09/12/14 17:17	7439-89-6	
Lead	**175**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:17	7439-92-1	
Nickel	**122**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:17	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/09/14 17:10	09/12/14 17:17	7782-49-2	
Silver	ND	ug/L	35.0	1	09/09/14 17:10	09/12/14 17:17	7440-22-4	
Thallium	ND	ug/L	100	1	09/09/14 17:10	09/12/14 17:17	7440-28-0	
Zinc	**6680**	ug/L	250	1	09/09/14 17:10	09/12/14 17:17	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1600**	ug/L	375	1	09/10/14 18:25	09/12/14 17:49	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/10/14 18:25	09/12/14 17:49	7440-36-0	
Arsenic, Dissolved	**614**	ug/L	50.0	1	09/10/14 18:25	09/12/14 17:49	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/10/14 18:25	09/12/14 17:49	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/10/14 18:25	09/12/14 17:49	7440-43-9	
Chromium, Dissolved	**136**	ug/L	25.0	1	09/10/14 18:25	09/12/14 17:49	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/10/14 18:25	09/12/14 17:49	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/10/14 18:25	09/12/14 17:49	7440-50-8	
Iron, Dissolved	**241000**	ug/L	250	1	09/10/14 18:25	09/12/14 17:49	7439-89-6	
Lead, Dissolved	**25.9**	ug/L	25.0	1	09/10/14 18:25	09/12/14 17:49	7439-92-1	
Nickel, Dissolved	**63.6**	ug/L	25.0	1	09/10/14 18:25	09/12/14 17:49	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/10/14 18:25	09/12/14 17:49	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/10/14 18:25	09/12/14 17:49	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/10/14 18:25	09/12/14 17:49	7440-28-0	
Zinc, Dissolved	**3070**	ug/L	250	1	09/10/14 18:25	09/12/14 17:49	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**27.6**	ug/L	6.0	1	09/09/14 17:25	09/10/14 10:27	7439-97-6	M1
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/11/14 17:30	09/12/14 14:10	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/09/14 00:00	09/10/14 15:55	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/09/14 00:00	09/10/14 15:55	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6900**	ug/L	4000	2	09/09/14 00:00	09/10/14 15:55		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Sample: 316-413 **Lab ID: 60177473001** Collected: 09/06/14 16:30 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	87-86-5	
Phenol	**10000**	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 15:55	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	129	%	33-120	2	09/09/14 00:00	09/10/14 15:55	4165-60-0	S0
2-Fluorobiphenyl (S)	89	%	39-120	2	09/09/14 00:00	09/10/14 15:55	321-60-8	
Terphenyl-d14 (S)	96	%	45-120	2	09/09/14 00:00	09/10/14 15:55	1718-51-0	
Phenol-d6 (S)	36	%	11-120	2	09/09/14 00:00	09/10/14 15:55	13127-88-3	
2-Fluorophenol (S)	51	%	17-120	2	09/09/14 00:00	09/10/14 15:55	367-12-4	
2,4,6-Tribromophenol (S)	110	%	39-120	2	09/09/14 00:00	09/10/14 15:55	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**63000**	ug/L	2000	200		09/09/14 19:49	67-64-1	N2
Benzene	ND	ug/L	200	200		09/09/14 19:49	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/09/14 19:49	75-27-4	
Bromoform	ND	ug/L	200	200		09/09/14 19:49	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/09/14 19:49	74-83-9	
2-Butanone (MEK)	**27800**	ug/L	2000	200		09/09/14 19:49	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/09/14 19:49	56-23-5	
Chloroethane	ND	ug/L	200	200		09/09/14 19:49	75-00-3	
Chloroform	ND	ug/L	200	200		09/09/14 19:49	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/09/14 19:49	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/09/14 19:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 19:49	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 19:49	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/09/14 19:49	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/09/14 19:49	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/09/14 19:49	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/09/14 19:49	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/09/14 19:49	127-18-4	
Toluene	ND	ug/L	200	200		09/09/14 19:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/09/14 19:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/09/14 19:49	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/09/14 19:49	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/09/14 19:49	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/09/14 19:49	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/09/14 19:49	460-00-4	HS
Toluene-d8 (S)	90	%	80-120	200		09/09/14 19:49	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		09/09/14 19:49	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/09/14 19:49		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**333**	mg/L	5.0	1		09/09/14 14:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Sample: 316-413 **Lab ID: 60177473001** Collected: 09/06/14 16:30 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.0**	mg/L	5.0	1		09/09/14 14:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5480**	mg/L	5.0	1		09/12/14 14:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.0**	Std. Units	0.10	1		09/09/14 16:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**24100**	mg/L	2.0	1	09/08/14 16:22	09/13/14 12:38		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**439**	mg/L	20.0	200		09/10/14 11:31	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**39500**	mg/L	5000	500		09/11/14 07:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Sample: TRIP BLANK **Lab ID: 60177473002** Collected: 09/06/14 16:30 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/12/14 14:14	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/12/14 14:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/12/14 14:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/12/14 14:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/12/14 14:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/12/14 14:14	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/12/14 14:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/12/14 14:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/12/14 14:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/12/14 14:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/12/14 14:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/12/14 14:14	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/12/14 14:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/12/14 14:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/12/14 14:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/12/14 14:14	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/12/14 14:14	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/12/14 14:14	127-18-4	
Toluene	ND	ug/L	1.0	1		09/12/14 14:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/12/14 14:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/12/14 14:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/12/14 14:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/12/14 14:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/12/14 14:14	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		09/12/14 14:14	460-00-4	
Toluene-d8 (S)	89	%	80-120	1		09/12/14 14:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		09/12/14 14:14	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/12/14 14:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MERP/8788
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177473001

METHOD BLANK: 1440060 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/10/14 10:16	

LABORATORY CONTROL SAMPLE: 1440061

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: 1440062 1440063

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	27.6	150	150	142	124	76	64	70-130	13	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MERP/8794
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177473001

METHOD BLANK: 1441341 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/12/14 14:05	

LABORATORY CONTROL SAMPLE: 1441342

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: 1441343 1441344

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	2.7	2.8	54	56	70-130	4	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MPRP/28846
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177473001

METHOD BLANK: 1439639
Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/12/14 17:03	
Antimony	ug/L	ND	10.0	09/12/14 17:03	
Arsenic	ug/L	ND	10.0	09/12/14 17:03	
Beryllium	ug/L	ND	1.0	09/12/14 17:03	
Cadmium	ug/L	ND	5.0	09/12/14 17:03	
Chromium	ug/L	ND	5.0	09/12/14 17:03	
Cobalt	ug/L	ND	5.0	09/12/14 17:03	
Copper	ug/L	ND	10.0	09/12/14 17:03	
Iron	ug/L	ND	50.0	09/12/14 17:03	
Lead	ug/L	ND	5.0	09/12/14 17:03	
Nickel	ug/L	ND	5.0	09/12/14 17:03	
Selenium	ug/L	ND	15.0	09/12/14 17:03	
Silver	ug/L	ND	7.0	09/12/14 17:03	
Thallium	ug/L	ND	20.0	09/12/14 17:03	
Zinc	ug/L	ND	50.0	09/12/14 17:03	

LABORATORY CONTROL SAMPLE: 1439640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	11000	110	85-115	
Antimony	ug/L	1000	1120	112	85-115	
Arsenic	ug/L	1000	1080	108	85-115	
Beryllium	ug/L	1000	1100	110	85-115	
Cadmium	ug/L	1000	1100	110	85-115	
Chromium	ug/L	1000	1100	110	85-115	
Cobalt	ug/L	1000	1130	113	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	11200	112	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1080	108	85-115	
Silver	ug/L	500	549	110	85-115	
Thallium	ug/L	1000	1110	111	85-115	
Zinc	ug/L	1000	1110	111	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439641 1439642

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	20600	50000	50000	89500	84400	138	128	70-130	6	8	M1
Antimony	ug/L	ND	5000	5000	5460	5350	109	107	70-130	2	7	
Arsenic	ug/L	879	5000	5000	6360	6270	110	108	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5170	5160	103	103	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5380	5320	108	106	70-130	1	10	
Chromium	ug/L	268	5000	5000	5320	5280	101	100	70-130	1	10	
Cobalt	ug/L	36.0	5000	5000	5120	5060	102	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5450	5380	108	107	70-130	1	11	
Iron	ug/L	730000	50000	50000	783000	772000	107	86	70-130	1	10	
Lead	ug/L	175	5000	5000	5120	5000	99	96	70-130	2	10	
Nickel	ug/L	122	5000	5000	5180	5100	101	100	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5760	5660	115	113	70-130	2	10	
Silver	ug/L	ND	2500	2500	2710	2690	108	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4640	4570	93	91	70-130	1	6	
Zinc	ug/L	6680	5000	5000	11700	11100	101	89	70-130	5	11	

MATRIX SPIKE SAMPLE: 1439643

Parameter	Units	60177476001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	7540	50000	64600	114	70-130	
Antimony	ug/L	ND	5000	5460	109	70-130	
Arsenic	ug/L	788	5000	6180	108	70-130	
Beryllium	ug/L	ND	5000	5220	104	70-130	
Cadmium	ug/L	ND	5000	5330	107	70-130	
Chromium	ug/L	214	5000	5260	101	70-130	
Cobalt	ug/L	ND	5000	5060	101	70-130	
Copper	ug/L	ND	5000	5420	108	70-130	
Iron	ug/L	687000	50000	720000	65	70-130	M1
Lead	ug/L	105	5000	5010	98	70-130	
Nickel	ug/L	93.4	5000	5130	101	70-130	
Selenium	ug/L	ND	5000	5740	114	70-130	
Silver	ug/L	ND	2500	2700	108	70-130	
Thallium	ug/L	ND	5000	4650	93	70-130	
Zinc	ug/L	4460	5000	9090	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MPRP/28864
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177473001

METHOD BLANK: 1440479
Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 17:47	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 17:47	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 17:47	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 17:47	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 17:47	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 17:47	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 17:47	

LABORATORY CONTROL SAMPLE: 1440480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	995	100	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	512	102	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440481 1440482

Parameter	Units	60177473001 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	1600	50000	50000	54200	53400	105	104	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5480	5420	109	108	70-130	1	7	
Arsenic, Dissolved	ug/L	614	5000	5000	5970	5900	107	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5160	5100	103	102	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5260	5200	105	104	70-130	1	10	
Chromium, Dissolved	ug/L	136	5000	5000	5120	5040	100	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4990	4950	100	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5400	5320	108	106	70-130	1	11	
Iron, Dissolved	ug/L	241000	50000	50000	294000	289000	106	95	70-130	2	10	
Lead, Dissolved	ug/L	25.9	5000	5000	4940	4900	98	97	70-130	1	10	
Nickel, Dissolved	ug/L	63.6	5000	5000	5080	5020	100	99	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5600	112	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2620	107	105	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4640	4580	93	92	70-130	1	6	
Zinc, Dissolved	ug/L	3070	5000	5000	7800	7700	95	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MSV/64291
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60177473001

METHOD BLANK: 1439874
Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/09/14 17:46	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,2-Dichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/09/14 17:46	
2-Butanone (MEK)	ug/L	ND	10.0	09/09/14 17:46	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/09/14 17:46	N2
Acetone	ug/L	ND	10.0	09/09/14 17:46	N2
Benzene	ug/L	ND	1.0	09/09/14 17:46	
Bromodichloromethane	ug/L	ND	1.0	09/09/14 17:46	
Bromoform	ug/L	ND	1.0	09/09/14 17:46	
Bromomethane	ug/L	ND	5.0	09/09/14 17:46	
Carbon tetrachloride	ug/L	ND	1.0	09/09/14 17:46	
Chloroethane	ug/L	ND	1.0	09/09/14 17:46	
Chloroform	ug/L	1.1	1.0	09/09/14 17:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	N2
Ethylbenzene	ug/L	ND	1.0	09/09/14 17:46	
Methylene chloride	ug/L	1.0	1.0	09/09/14 17:46	
Tetrachloroethene	ug/L	ND	1.0	09/09/14 17:46	
Toluene	ug/L	ND	1.0	09/09/14 17:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Trichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Vinyl chloride	ug/L	ND	1.0	09/09/14 17:46	
Xylene (Total)	ug/L	ND	3.0	09/09/14 17:46	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/09/14 17:46	
4-Bromofluorobenzene (S)	%	97	80-120	09/09/14 17:46	
Toluene-d8 (S)	%	99	80-120	09/09/14 17:46	

LABORATORY CONTROL SAMPLE: 1439875

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.6	103	67-124	
1,2-Dichloroethane	ug/L	20	18.7	93	70-126	
1,4-Dichlorobenzene	ug/L	20	19.7	98	74-120	
2-Butanone (MEK)	ug/L	100	96.4	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.2	91	59-131	N2
Acetone	ug/L	100	95.8	96	38-134	N2
Benzene	ug/L	20	17.6	88	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

LABORATORY CONTROL SAMPLE: 1439875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.1	100	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	16.8	84	13-157	
Carbon tetrachloride	ug/L	20	19.5	97	70-131	
Chloroethane	ug/L	20	18.9	94	47-133	
Chloroform	ug/L	20	21.3	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	68-127	N2
Ethylbenzene	ug/L	20	19.9	99	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	18.6	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	18.5	92	71-123	
Vinyl chloride	ug/L	20	16.8	84	43-129	
Xylene (Total)	ug/L	60	60.2	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4340	108	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3600	90	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3670	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3450	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3690	91	33-140	
2-Butanone (MEK)	ug/L	27800	20000	56000	141	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17700	86	40-160	N2
Benzene	ug/L	ND	4000	3330	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3700	93	35-142	
Bromoform	ug/L	ND	4000	3800	95	45-142	
Bromomethane	ug/L	ND	4000	3240	81	10-158	
Carbon tetrachloride	ug/L	ND	4000	3720	93	70-140	
Chloroethane	ug/L	ND	4000	3310	83	19-152	
Chloroform	ug/L	ND	4000	3830	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3710	93	40-142	
Methylene chloride	ug/L	ND	4000	3370	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3960	99	64-148	
Toluene	ug/L	ND	4000	3500	88	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3690	92	54-151	
Trichloroethene	ug/L	ND	4000	3550	89	71-149	
Vinyl chloride	ug/L	ND	4000	3460	87	22-146	
Xylene (Total)	ug/L	ND	12000	11400	95	37-144	N2

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: MSV/64356
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60177473002

METHOD BLANK: 1441746
Matrix: Water
Associated Lab Samples: 60177473002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/12/14 13:41	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/12/14 13:41	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/12/14 13:41	
1,2-Dichloroethane	ug/L	ND	1.0	09/12/14 13:41	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/12/14 13:41	
2-Butanone (MEK)	ug/L	ND	10.0	09/12/14 13:41	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/12/14 13:41	N2
Acetone	ug/L	ND	10.0	09/12/14 13:41	N2
Benzene	ug/L	ND	1.0	09/12/14 13:41	
Bromodichloromethane	ug/L	ND	1.0	09/12/14 13:41	
Bromoform	ug/L	ND	1.0	09/12/14 13:41	
Bromomethane	ug/L	ND	5.0	09/12/14 13:41	
Carbon tetrachloride	ug/L	ND	1.0	09/12/14 13:41	
Chloroethane	ug/L	ND	1.0	09/12/14 13:41	
Chloroform	ug/L	ND	1.0	09/12/14 13:41	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/12/14 13:41	N2
Ethylbenzene	ug/L	ND	1.0	09/12/14 13:41	
Methylene chloride	ug/L	ND	1.0	09/12/14 13:41	
Tetrachloroethene	ug/L	ND	1.0	09/12/14 13:41	
Toluene	ug/L	ND	1.0	09/12/14 13:41	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/12/14 13:41	
Trichloroethene	ug/L	ND	1.0	09/12/14 13:41	
Vinyl chloride	ug/L	ND	1.0	09/12/14 13:41	
Xylene (Total)	ug/L	ND	3.0	09/12/14 13:41	N2
1,2-Dichloroethane-d4 (S)	%	104	80-120	09/12/14 13:41	
4-Bromofluorobenzene (S)	%	94	80-120	09/12/14 13:41	
Toluene-d8 (S)	%	98	80-120	09/12/14 13:41	

LABORATORY CONTROL SAMPLE: 1441747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	16.8	84	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.7	93	67-124	
1,2-Dichloroethane	ug/L	20	17.5	87	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	80.2	80	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	82.0	82	59-131	N2
Acetone	ug/L	100	85.5	86	38-134	N2
Benzene	ug/L	20	17.1	85	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

LABORATORY CONTROL SAMPLE: 1441747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.3	97	68-125	
Bromoform	ug/L	20	20.1	100	65-127	
Bromomethane	ug/L	20	15.9	80	13-157	
Carbon tetrachloride	ug/L	20	18.2	91	70-131	
Chloroethane	ug/L	20	18.4	92	47-133	
Chloroform	ug/L	20	18.2	91	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.5	98	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	19.0	95	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	17.8	89	69-126	
trans-1,2-Dichloroethene	ug/L	20	20.7	104	66-129	
Trichloroethene	ug/L	20	17.6	88	71-123	
Vinyl chloride	ug/L	20	18.1	91	43-129	
Xylene (Total)	ug/L	60	58.1	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			92	80-120	
Toluene-d8 (S)	%			97	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: OEXT/46049
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177473001

METHOD BLANK: 1439471
Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/10/14 12:28	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/10/14 12:28	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/10/14 12:28	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/10/14 12:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachloroethane	ug/L	ND	5.0	09/10/14 12:28	
Naphthalene	ug/L	ND	5.0	09/10/14 12:28	
Nitrobenzene	ug/L	ND	5.0	09/10/14 12:28	
Pentachlorophenol	ug/L	ND	5.0	09/10/14 12:28	
Phenol	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Tribromophenol (S)	%	89	39-120	09/10/14 12:28	
2-Fluorobiphenyl (S)	%	86	39-120	09/10/14 12:28	
2-Fluorophenol (S)	%	40	17-120	09/10/14 12:28	
Nitrobenzene-d5 (S)	%	85	33-120	09/10/14 12:28	
Phenol-d6 (S)	%	30	11-120	09/10/14 12:28	
Terphenyl-d14 (S)	%	89	45-120	09/10/14 12:28	

LABORATORY CONTROL SAMPLE: 1439472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.8	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.0	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.4	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.6	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.5	57	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	41.1	82	48-120	
Nitrobenzene	ug/L	50	42.6	85	48-120	
Pentachlorophenol	ug/L	50	51.7	103	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			53	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

MATRIX SPIKE SAMPLE: 1439473

Parameter	Units	60177351001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	57.5	38.2	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	57.5	60.9	106	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	57.5	43.1	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	57.5	40.2	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	57.5	77.8	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	57.5	31.4	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	115	54.7	48	11-120	
Hexachloroethane	ug/L	ND	57.5	31.0	54	40-113	
Naphthalene	ug/L	ND	57.5	40.4	70	45-120	
Nitrobenzene	ug/L	ND	57.5	47.9	83	38-120	
Pentachlorophenol	ug/L	ND	57.5	75.6	132	43-135	
Phenol	ug/L	ND	57.5	20.3	35	13-112	
2,4,6-Tribromophenol (S)	%				112	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				84	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WET/50144
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177473001

METHOD BLANK: 1439963 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/09/14 14:38	

LABORATORY CONTROL SAMPLE: 1439964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.5	104	78-114	

MATRIX SPIKE SAMPLE: 1439966

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.4	98	78-114	

SAMPLE DUPLICATE: 1439965

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	324	335	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WET/50148
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177473001

METHOD BLANK: 1439978 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/14 14:47	

LABORATORY CONTROL SAMPLE: 1439979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.5	102	64-132	

MATRIX SPIKE SAMPLE: 1439981

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	12.9	60	64-132	M1

SAMPLE DUPLICATE: 1439980

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.0	8.3	32	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WET/50235
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177473001

METHOD BLANK: 1442185
Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/12/14 14:30	

SAMPLE DUPLICATE: 1442186

Parameter	Units	60177473001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5480	5320	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WET/50149
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177473001

SAMPLE DUPLICATE: 1439982

Parameter	Units	60177473001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WET/50124
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177473001

METHOD BLANK: 1439402 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/13/14 12:29	

LABORATORY CONTROL SAMPLE: 1439403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	200	101	85-115	

SAMPLE DUPLICATE: 1439404

Parameter	Units	60177464002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	741	740	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WETA/30940 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177473001

METHOD BLANK: 1440202 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/10/14 11:13	

LABORATORY CONTROL SAMPLE: 1440203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	109	90-110	

MATRIX SPIKE SAMPLE: 1440204

Parameter	Units	60177328001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.48	2	2.2	84	90-110	M1

MATRIX SPIKE SAMPLE: 1440205

Parameter	Units	60177405003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

SAMPLE DUPLICATE: 1440206

Parameter	Units	60177478002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.9	3.9	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

QC Batch: WETA/30941 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177473001

METHOD BLANK: 1440207 Matrix: Water
Associated Lab Samples: 60177473001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/11/14 07:14	

LABORATORY CONTROL SAMPLE: 1440208

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

MATRIX SPIKE SAMPLE: 1440209

Parameter	Units	60176781001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	361	250	614	102	90-110	

MATRIX SPIKE SAMPLE: 1440211

Parameter	Units	60177417001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	40200	25000	64300	96	90-110	

SAMPLE DUPLICATE: 1440210

Parameter	Units	60176818002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.8	25.9	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

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.

BATCH QUALIFIERS

Batch: MSV/64356

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

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-413
Pace Project No.: 60177473

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177473001	**316-413**	EPA 200.7	MPRP/28846	EPA 200.7	ICP/21742
60177473001	**316-413**	EPA 200.7	MPRP/28864	EPA 200.7	ICP/21754
60177473001	**316-413**	EPA 245.1	MERP/8788	EPA 245.1	MERC/8742
60177473001	**316-413**	EPA 245.1	MERP/8794	EPA 245.1	MERC/8753
60177473001	**316-413**	EPA 625	OEXT/46049	EPA 625	MSSV/14788
60177473001	**316-413**	EPA 624 Low	MSV/64291		
60177473002	**TRIP BLANK**	EPA 624 Low	MSV/64356		
60177473001	**316-413**	EPA 1664A	WET/50144		
60177473001	**316-413**	EPA 1664A	WET/50148		
60177473001	**316-413**	SM 2540D	WET/50235		
60177473001	**316-413**	SM 4500-H+B	WET/50149		
60177473001	**316-413**	SM 5210B	WET/50124	SM 5210B	WET/50262
60177473001	**316-413**	EPA 350.1	WETA/30940		
60177473001	**316-413**	EPA 410.4	WETA/30941		

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Sample Condition Upon Receipt

WO#:60177473
60177473

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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

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 ☒ Ziploc

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

Cooler Temperature: 4.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 9/8

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: OT				13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	DP35 initial pH 5.0 added 1mL Final pH 3.5 DP3A initial pH 6.0 added 2.0 mL 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 JB / Lot # of added preservative
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 8/26/14				15.
Headspace in VOA vials (>6mm):	☒Yes	☐No	☐N/A	5 of 5 DGAN 316-410 16.
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State: MN

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

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: [signature] Date: 9/10

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other
1	(2)BP2U 3/6-4/13 BP3U (3)AG3S (2)AG4U	OT	G	BP3S 7.8	BP3N 4.0	9/6/14	1630		14	10	4	1	0	(5)DG9U			
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)	60177473
1		X	X	X	X	X	X	X	X	X	X	X			001
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	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FEI	9-8-14	9:00am	DON JOE	9-8-14	09:00				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	9/8	1300	4.2	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:	Hunter King						
SIGNATURE of SAMPLER:	Hunter King	DATE Signed:	9/6/14				

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September 15, 2014

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

RE: Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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 316-414
Pace Project No.: 60177474

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 316-414
Pace Project No.: 60177474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177474001	**316-414**	Water	09/07/14 16:00	09/08/14 13:00
60177474002	**TRIP BLANK**	Water	09/07/14 16:00	09/08/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177474001	**316-414**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177474002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Date: September 15, 2014

The sample volume received for volatile analysis for leachate sample 316-414 contained head space presence greater than 6mm. Per historical instructions, the analysis is complete and the presence noted.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Sample: 316-414 **Lab ID: 60177474001** Collected: 09/07/14 16:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9320**	ug/L	375	1	09/09/14 17:10	09/12/14 17:24	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:24	7440-36-0	
Arsenic	**800**	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:24	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/09/14 17:10	09/12/14 17:24	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:24	7440-43-9	
Chromium	**212**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:24	7440-47-3	
Cobalt	**26.7**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:24	7440-48-4	
Copper	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:24	7440-50-8	
Iron	**670000**	ug/L	250	1	09/09/14 17:10	09/12/14 17:24	7439-89-6	
Lead	**117**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:24	7439-92-1	
Nickel	**90.2**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:24	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/09/14 17:10	09/12/14 17:24	7782-49-2	
Silver	ND	ug/L	35.0	1	09/09/14 17:10	09/12/14 17:24	7440-22-4	
Thallium	ND	ug/L	100	1	09/09/14 17:10	09/12/14 17:24	7440-28-0	
Zinc	**4840**	ug/L	250	1	09/09/14 17:10	09/12/14 17:24	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1580**	ug/L	375	1	09/10/14 18:20	09/12/14 18:07	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:07	7440-36-0	
Arsenic, Dissolved	**586**	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:07	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/10/14 18:20	09/12/14 18:07	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:07	7440-43-9	
Chromium, Dissolved	**142**	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:07	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:07	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:07	7440-50-8	
Iron, Dissolved	**251000**	ug/L	250	1	09/10/14 18:20	09/12/14 18:07	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:07	7439-92-1	
Nickel, Dissolved	**68.4**	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:07	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/10/14 18:20	09/12/14 18:07	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/10/14 18:20	09/12/14 18:07	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/10/14 18:20	09/12/14 18:07	7440-28-0	
Zinc, Dissolved	**3190**	ug/L	250	1	09/10/14 18:20	09/12/14 18:07	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10.8**	ug/L	6.0	1	09/09/14 17:25	09/10/14 10:34	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/11/14 17:30	09/12/14 14:21	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/09/14 00:00	09/10/14 16:16	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/09/14 00:00	09/10/14 16:16	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**6760**	ug/L	4000	2	09/09/14 00:00	09/10/14 16:16		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Sample: 316-414 **Lab ID: 60177474001** Collected: 09/07/14 16:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	87-86-5	
Phenol	**9670**	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:16	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	134	%	33-120	2	09/09/14 00:00	09/10/14 16:16	4165-60-0	S0
2-Fluorobiphenyl (S)	86	%	39-120	2	09/09/14 00:00	09/10/14 16:16	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	09/09/14 00:00	09/10/14 16:16	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	09/09/14 00:00	09/10/14 16:16	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	09/09/14 00:00	09/10/14 16:16	367-12-4	
2,4,6-Tribromophenol (S)	107	%	39-120	2	09/09/14 00:00	09/10/14 16:16	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**74800**	ug/L	2000	200		09/09/14 20:20	67-64-1	N2
Benzene	ND	ug/L	200	200		09/09/14 20:20	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/09/14 20:20	75-27-4	
Bromoform	ND	ug/L	200	200		09/09/14 20:20	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/09/14 20:20	74-83-9	
2-Butanone (MEK)	**31700**	ug/L	2000	200		09/09/14 20:20	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/09/14 20:20	56-23-5	
Chloroethane	ND	ug/L	200	200		09/09/14 20:20	75-00-3	
Chloroform	ND	ug/L	200	200		09/09/14 20:20	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/09/14 20:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/09/14 20:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 20:20	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 20:20	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/09/14 20:20	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/09/14 20:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/09/14 20:20	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/09/14 20:20	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/09/14 20:20	127-18-4	
Toluene	ND	ug/L	200	200		09/09/14 20:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/09/14 20:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/09/14 20:20	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/09/14 20:20	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/09/14 20:20	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/09/14 20:20	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		09/09/14 20:20	460-00-4	HS
Toluene-d8 (S)	98	%	80-120	200		09/09/14 20:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		09/09/14 20:20	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/09/14 20:20		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**324**	mg/L	5.0	1		09/09/14 14:42		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Sample: 316-414 **Lab ID: 60177474001** Collected: 09/07/14 16:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.0**	mg/L	5.0	1		09/09/14 14:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3000**	mg/L	5.0	1		09/11/14 10:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.9**	Std. Units	0.10	1		09/09/14 16:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**22100**	mg/L	2.0	1	09/08/14 16:46	09/13/14 12:43		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**439**	mg/L	20.0	200		09/10/14 11:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**41100**	mg/L	5000	500		09/11/14 07:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Sample: TRIP BLANK **Lab ID: 60177474002** Collected: 09/07/14 16:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/09/14 19:19	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/09/14 19:19	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/09/14 19:19	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/09/14 19:19	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/09/14 19:19	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/09/14 19:19	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/09/14 19:19	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/09/14 19:19	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/09/14 19:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/09/14 19:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/09/14 19:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 19:19	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 19:19	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/09/14 19:19	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/09/14 19:19	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/09/14 19:19	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/09/14 19:19	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/09/14 19:19	127-18-4	
Toluene	ND	ug/L	1.0	1		09/09/14 19:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/09/14 19:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/09/14 19:19	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/09/14 19:19	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/09/14 19:19	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/09/14 19:19	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		09/09/14 19:19	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/09/14 19:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/09/14 19:19	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/09/14 19:19		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: MERP/8788
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177474001

METHOD BLANK: 1440060 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/10/14 10:16	

LABORATORY CONTROL SAMPLE: 1440061

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: 1440062 1440063

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	27.6	150	150	142	124	76	64	70-130	13	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: MERP/8794
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177474001

METHOD BLANK: 1441341 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/12/14 14:05	

LABORATORY CONTROL SAMPLE: 1441342

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: 1441343 1441344

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	2.7	2.8	54	56	70-130	4	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: MPRP/28846
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177474001

METHOD BLANK: 1439639
Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/12/14 17:03	
Antimony	ug/L	ND	10.0	09/12/14 17:03	
Arsenic	ug/L	ND	10.0	09/12/14 17:03	
Beryllium	ug/L	ND	1.0	09/12/14 17:03	
Cadmium	ug/L	ND	5.0	09/12/14 17:03	
Chromium	ug/L	ND	5.0	09/12/14 17:03	
Cobalt	ug/L	ND	5.0	09/12/14 17:03	
Copper	ug/L	ND	10.0	09/12/14 17:03	
Iron	ug/L	ND	50.0	09/12/14 17:03	
Lead	ug/L	ND	5.0	09/12/14 17:03	
Nickel	ug/L	ND	5.0	09/12/14 17:03	
Selenium	ug/L	ND	15.0	09/12/14 17:03	
Silver	ug/L	ND	7.0	09/12/14 17:03	
Thallium	ug/L	ND	20.0	09/12/14 17:03	
Zinc	ug/L	ND	50.0	09/12/14 17:03	

LABORATORY CONTROL SAMPLE: 1439640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	11000	110	85-115	
Antimony	ug/L	1000	1120	112	85-115	
Arsenic	ug/L	1000	1080	108	85-115	
Beryllium	ug/L	1000	1100	110	85-115	
Cadmium	ug/L	1000	1100	110	85-115	
Chromium	ug/L	1000	1100	110	85-115	
Cobalt	ug/L	1000	1130	113	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	11200	112	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1080	108	85-115	
Silver	ug/L	500	549	110	85-115	
Thallium	ug/L	1000	1110	111	85-115	
Zinc	ug/L	1000	1110	111	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439641 1439642

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	20600	50000	50000	89500	84400	138	128	70-130	6	8	M1
Antimony	ug/L	ND	5000	5000	5460	5350	109	107	70-130	2	7	
Arsenic	ug/L	879	5000	5000	6360	6270	110	108	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5170	5160	103	103	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5380	5320	108	106	70-130	1	10	
Chromium	ug/L	268	5000	5000	5320	5280	101	100	70-130	1	10	
Cobalt	ug/L	36.0	5000	5000	5120	5060	102	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5450	5380	108	107	70-130	1	11	
Iron	ug/L	730000	50000	50000	783000	772000	107	86	70-130	1	10	
Lead	ug/L	175	5000	5000	5120	5000	99	96	70-130	2	10	
Nickel	ug/L	122	5000	5000	5180	5100	101	100	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5760	5660	115	113	70-130	2	10	
Silver	ug/L	ND	2500	2500	2710	2690	108	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4640	4570	93	91	70-130	1	6	
Zinc	ug/L	6680	5000	5000	11700	11100	101	89	70-130	5	11	

MATRIX SPIKE SAMPLE: 1439643

Parameter	Units	60177476001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	7540	50000	64600	114	70-130	
Antimony	ug/L	ND	5000	5460	109	70-130	
Arsenic	ug/L	788	5000	6180	108	70-130	
Beryllium	ug/L	ND	5000	5220	104	70-130	
Cadmium	ug/L	ND	5000	5330	107	70-130	
Chromium	ug/L	214	5000	5260	101	70-130	
Cobalt	ug/L	ND	5000	5060	101	70-130	
Copper	ug/L	ND	5000	5420	108	70-130	
Iron	ug/L	687000	50000	720000	65	70-130	M1
Lead	ug/L	105	5000	5010	98	70-130	
Nickel	ug/L	93.4	5000	5130	101	70-130	
Selenium	ug/L	ND	5000	5740	114	70-130	
Silver	ug/L	ND	2500	2700	108	70-130	
Thallium	ug/L	ND	5000	4650	93	70-130	
Zinc	ug/L	4460	5000	9090	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: MPRP/28877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177474001

METHOD BLANK: 1440827
Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 18:05	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 18:05	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 18:05	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 18:05	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 18:05	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 18:05	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 18:05	

LABORATORY CONTROL SAMPLE: 1440828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	996	100	85-115	
Beryllium, Dissolved	ug/L	1000	1070	107	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440829 1440830

Parameter	Units	60177474001 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	1580	50000	50000	54400	55300	106	107	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5460	5550	109	111	70-130	2	7	
Arsenic, Dissolved	ug/L	586	5000	5000	5950	6040	107	109	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5200	5260	104	105	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5270	5340	105	107	70-130	1	10	
Chromium, Dissolved	ug/L	142	5000	5000	5130	5220	100	101	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5010	5060	100	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5420	5540	108	111	70-130	2	11	
Iron, Dissolved	ug/L	251000	50000	50000	302000	304000	102	107	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4970	4980	99	99	70-130	0	10	
Nickel, Dissolved	ug/L	68.4	5000	5000	5100	5140	101	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5780	113	115	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2730	106	109	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4720	93	94	70-130	2	6	
Zinc, Dissolved	ug/L	3190	5000	5000	7940	8030	95	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: MSV/64291 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177474001, 60177474002

METHOD BLANK: 1439874 Matrix: Water
Associated Lab Samples: 60177474001, 60177474002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/09/14 17:46	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,2-Dichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/09/14 17:46	
2-Butanone (MEK)	ug/L	ND	10.0	09/09/14 17:46	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/09/14 17:46	N2
Acetone	ug/L	ND	10.0	09/09/14 17:46	N2
Benzene	ug/L	ND	1.0	09/09/14 17:46	
Bromodichloromethane	ug/L	ND	1.0	09/09/14 17:46	
Bromoform	ug/L	ND	1.0	09/09/14 17:46	
Bromomethane	ug/L	ND	5.0	09/09/14 17:46	
Carbon tetrachloride	ug/L	ND	1.0	09/09/14 17:46	
Chloroethane	ug/L	ND	1.0	09/09/14 17:46	
Chloroform	ug/L	1.1	1.0	09/09/14 17:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	N2
Ethylbenzene	ug/L	ND	1.0	09/09/14 17:46	
Methylene chloride	ug/L	1.0	1.0	09/09/14 17:46	
Tetrachloroethene	ug/L	ND	1.0	09/09/14 17:46	
Toluene	ug/L	ND	1.0	09/09/14 17:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Trichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Vinyl chloride	ug/L	ND	1.0	09/09/14 17:46	
Xylene (Total)	ug/L	ND	3.0	09/09/14 17:46	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/09/14 17:46	
4-Bromofluorobenzene (S)	%	97	80-120	09/09/14 17:46	
Toluene-d8 (S)	%	99	80-120	09/09/14 17:46	

LABORATORY CONTROL SAMPLE: 1439875

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.6	103	67-124	
1,2-Dichloroethane	ug/L	20	18.7	93	70-126	
1,4-Dichlorobenzene	ug/L	20	19.7	98	74-120	
2-Butanone (MEK)	ug/L	100	96.4	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.2	91	59-131	N2
Acetone	ug/L	100	95.8	96	38-134	N2
Benzene	ug/L	20	17.6	88	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

LABORATORY CONTROL SAMPLE: 1439875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.1	100	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	16.8	84	13-157	
Carbon tetrachloride	ug/L	20	19.5	97	70-131	
Chloroethane	ug/L	20	18.9	94	47-133	
Chloroform	ug/L	20	21.3	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	68-127	N2
Ethylbenzene	ug/L	20	19.9	99	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	18.6	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	18.5	92	71-123	
Vinyl chloride	ug/L	20	16.8	84	43-129	
Xylene (Total)	ug/L	60	60.2	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4340	108	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3600	90	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3670	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3450	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3690	91	33-140	
2-Butanone (MEK)	ug/L	27800	20000	56000	141	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17700	86	40-160	N2
Benzene	ug/L	ND	4000	3330	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3700	93	35-142	
Bromoform	ug/L	ND	4000	3800	95	45-142	
Bromomethane	ug/L	ND	4000	3240	81	10-158	
Carbon tetrachloride	ug/L	ND	4000	3720	93	70-140	
Chloroethane	ug/L	ND	4000	3310	83	19-152	
Chloroform	ug/L	ND	4000	3830	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3710	93	40-142	
Methylene chloride	ug/L	ND	4000	3370	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3960	99	64-148	
Toluene	ug/L	ND	4000	3500	88	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3690	92	54-151	
Trichloroethene	ug/L	ND	4000	3550	89	71-149	
Vinyl chloride	ug/L	ND	4000	3460	87	22-146	
Xylene (Total)	ug/L	ND	12000	11400	95	37-144	N2

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 LF 316-414
Pace Project No.: 60177474

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	HS
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 316-414
Pace Project No.: 60177474

QC Batch: OEXT/46049
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177474001

METHOD BLANK: 1439471
Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/10/14 12:28	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/10/14 12:28	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/10/14 12:28	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/10/14 12:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachloroethane	ug/L	ND	5.0	09/10/14 12:28	
Naphthalene	ug/L	ND	5.0	09/10/14 12:28	
Nitrobenzene	ug/L	ND	5.0	09/10/14 12:28	
Pentachlorophenol	ug/L	ND	5.0	09/10/14 12:28	
Phenol	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Tribromophenol (S)	%	89	39-120	09/10/14 12:28	
2-Fluorobiphenyl (S)	%	86	39-120	09/10/14 12:28	
2-Fluorophenol (S)	%	40	17-120	09/10/14 12:28	
Nitrobenzene-d5 (S)	%	85	33-120	09/10/14 12:28	
Phenol-d6 (S)	%	30	11-120	09/10/14 12:28	
Terphenyl-d14 (S)	%	89	45-120	09/10/14 12:28	

LABORATORY CONTROL SAMPLE: 1439472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.8	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.0	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.4	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.6	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.5	57	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	41.1	82	48-120	
Nitrobenzene	ug/L	50	42.6	85	48-120	
Pentachlorophenol	ug/L	50	51.7	103	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			53	17-120	
Nitrobenzene-d5 (S)	%			87	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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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

MATRIX SPIKE SAMPLE: 1439473

Parameter	Units	60177351001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	57.5	38.2	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	57.5	60.9	106	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	57.5	43.1	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	57.5	40.2	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	57.5	77.8	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	57.5	31.4	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	115	54.7	48	11-120	
Hexachloroethane	ug/L	ND	57.5	31.0	54	40-113	
Naphthalene	ug/L	ND	57.5	40.4	70	45-120	
Nitrobenzene	ug/L	ND	57.5	47.9	83	38-120	
Pentachlorophenol	ug/L	ND	57.5	75.6	132	43-135	
Phenol	ug/L	ND	57.5	20.3	35	13-112	
2,4,6-Tribromophenol (S)	%				112	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				84	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				92	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WET/50144 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177474001

METHOD BLANK: 1439963 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/09/14 14:38	

LABORATORY CONTROL SAMPLE: 1439964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.5	104	78-114	

MATRIX SPIKE SAMPLE: 1439966

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.4	98	78-114	

SAMPLE DUPLICATE: 1439965

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	324	335	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WET/50148 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177474001

METHOD BLANK: 1439978 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/14 14:47	

LABORATORY CONTROL SAMPLE: 1439979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.5	102	64-132	

MATRIX SPIKE SAMPLE: 1439981

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	12.9	60	64-132	M1

SAMPLE DUPLICATE: 1439980

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.0	8.3	32	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WET/50188
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177474001

METHOD BLANK: 1441028
Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/11/14 10:02	

SAMPLE DUPLICATE: 1441030

Parameter	Units	60177478002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WET/50149
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177474001

SAMPLE DUPLICATE: 1439982

Parameter	Units	60177473001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WET/50124
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177474001

METHOD BLANK: 1439402 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/13/14 12:29	

LABORATORY CONTROL SAMPLE: 1439403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	200	101	85-115	

SAMPLE DUPLICATE: 1439404

Parameter	Units	60177464002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	741	740	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WETA/30940 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177474001

METHOD BLANK: 1440202 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/10/14 11:13	

LABORATORY CONTROL SAMPLE: 1440203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	109	90-110	

MATRIX SPIKE SAMPLE: 1440204

Parameter	Units	60177328001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.48	2	2.2	84	90-110	M1

MATRIX SPIKE SAMPLE: 1440205

Parameter	Units	60177405003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

SAMPLE DUPLICATE: 1440206

Parameter	Units	60177478002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.9	3.9	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

QC Batch: WETA/30941
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60177474001

METHOD BLANK: 1440207 Matrix: Water
Associated Lab Samples: 60177474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/11/14 07:14	

LABORATORY CONTROL SAMPLE: 1440208

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

MATRIX SPIKE SAMPLE: 1440209

Parameter	Units	60176781001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	361	250	614	102	90-110	

MATRIX SPIKE SAMPLE: 1440211

Parameter	Units	60177417001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	40200	25000	64300	96	90-110	

SAMPLE DUPLICATE: 1440210

Parameter	Units	60176818002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	26.8	25.9	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-414
Pace Project No.: 60177474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177474001	**316-414**	EPA 200.7	MPRP/28846	EPA 200.7	ICP/21742
60177474001	**316-414**	EPA 200.7	MPRP/28877	EPA 200.7	ICP/21755
60177474001	**316-414**	EPA 245.1	MERP/8788	EPA 245.1	MERC/8742
60177474001	**316-414**	EPA 245.1	MERP/8794	EPA 245.1	MERC/8753
60177474001	**316-414**	EPA 625	OEXT/46049	EPA 625	MSSV/14788
60177474001	**316-414**	EPA 624 Low	MSV/64291		
60177474002	**TRIP BLANK**	EPA 624 Low	MSV/64291		
60177474001	**316-414**	EPA 1664A	WET/50144		
60177474001	**316-414**	EPA 1664A	WET/50148		
60177474001	**316-414**	SM 2540D	WET/50188		
60177474001	**316-414**	SM 4500-H+B	WET/50149		
60177474001	**316-414**	SM 5210B	WET/50124	SM 5210B	WET/50262
60177474001	**316-414**	EPA 350.1	WETA/30940		
60177474001	**316-414**	EPA 410.4	WETA/30941		

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Sample Condition Upon Receipt

WO#: 60177474

60177474

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: 5.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JD 9/8

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:	OT	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial 5.0 added 1mL Final pH 5.5 VP3N initial 6.0 added 2.5mL Final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed JB / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 8/26/14		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	5065 0644 326-414
		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

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)	60177474
1	(2)BP2N 3/6 - 9/4 DP3A (3)AG3 (2)AG4U	OT	G	DP3S	DP3A	9/7/14	1220		14	10	4	1	0	5	DG4U			X	X	X	X	X	X	X	X	X	X	X			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	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	9-8-14	9:00	Dan 304	9-6-14	0810				
SITE ADDRESS: BRIDGETON LF				Jan Pace	9/8	1300	5.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter KS	DATE Signed: 9/7/14				

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

September 15, 2014

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

RE: Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 08, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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 316-415
Pace Project No.: 60177476

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 316-415
Pace Project No.: 60177476

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177476001	**316-415**	Water	09/08/14 08:00	09/08/14 13:00
60177476002	**TRIP BLANK**	Water	09/08/14 08:00	09/08/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177476001	**316-415**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177476002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Sample: 316-415 **Lab ID: 60177476001** Collected: 09/08/14 08:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7540**	ug/L	375	1	09/09/14 17:10	09/12/14 17:31	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:31	7440-36-0	
Arsenic	**788**	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:31	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/09/14 17:10	09/12/14 17:31	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:31	7440-43-9	
Chromium	**214**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:31	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:31	7440-48-4	
Copper	ND	ug/L	50.0	1	09/09/14 17:10	09/12/14 17:31	7440-50-8	
Iron	**687000**	ug/L	250	1	09/09/14 17:10	09/12/14 17:31	7439-89-6	M1
Lead	**105**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:31	7439-92-1	
Nickel	**93.4**	ug/L	25.0	1	09/09/14 17:10	09/12/14 17:31	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/09/14 17:10	09/12/14 17:31	7782-49-2	
Silver	ND	ug/L	35.0	1	09/09/14 17:10	09/12/14 17:31	7440-22-4	
Thallium	ND	ug/L	100	1	09/09/14 17:10	09/12/14 17:31	7440-28-0	
Zinc	**4460**	ug/L	250	1	09/09/14 17:10	09/12/14 17:31	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1550**	ug/L	375	1	09/10/14 18:25	09/12/14 18:00	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/10/14 18:25	09/12/14 18:00	7440-36-0	
Arsenic, Dissolved	**547**	ug/L	50.0	1	09/10/14 18:25	09/12/14 18:00	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/10/14 18:25	09/12/14 18:00	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/10/14 18:25	09/12/14 18:00	7440-43-9	
Chromium, Dissolved	**133**	ug/L	25.0	1	09/10/14 18:25	09/12/14 18:00	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/10/14 18:25	09/12/14 18:00	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/10/14 18:25	09/12/14 18:00	7440-50-8	
Iron, Dissolved	**240000**	ug/L	250	1	09/10/14 18:25	09/12/14 18:00	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/10/14 18:25	09/12/14 18:00	7439-92-1	
Nickel, Dissolved	**64.1**	ug/L	25.0	1	09/10/14 18:25	09/12/14 18:00	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/10/14 18:25	09/12/14 18:00	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/10/14 18:25	09/12/14 18:00	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/10/14 18:25	09/12/14 18:00	7440-28-0	
Zinc, Dissolved	**3100**	ug/L	250	1	09/10/14 18:25	09/12/14 18:00	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**7.5**	ug/L	6.0	1	09/09/14 17:25	09/10/14 10:36	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/11/14 17:30	09/12/14 14:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/09/14 00:00	09/10/14 16:36	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/09/14 00:00	09/10/14 16:36	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**7410**	ug/L	4000	2	09/09/14 00:00	09/10/14 16:36		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Sample: 316-415 **Lab ID: 60177476001** Collected: 09/08/14 08:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	87-86-5	
Phenol	**10300**	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/09/14 00:00	09/10/14 16:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	153	%	33-120	2	09/09/14 00:00	09/10/14 16:36	4165-60-0	S0
2-Fluorobiphenyl (S)	92	%	39-120	2	09/09/14 00:00	09/10/14 16:36	321-60-8	
Terphenyl-d14 (S)	97	%	45-120	2	09/09/14 00:00	09/10/14 16:36	1718-51-0	
Phenol-d6 (S)	38	%	11-120	2	09/09/14 00:00	09/10/14 16:36	13127-88-3	
2-Fluorophenol (S)	54	%	17-120	2	09/09/14 00:00	09/10/14 16:36	367-12-4	
2,4,6-Tribromophenol (S)	114	%	39-120	2	09/09/14 00:00	09/10/14 16:36	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**76300**	ug/L	2000	200		09/09/14 20:36	67-64-1	N2
Benzene	ND	ug/L	200	200		09/09/14 20:36	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/09/14 20:36	75-27-4	
Bromoform	ND	ug/L	200	200		09/09/14 20:36	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/09/14 20:36	74-83-9	
2-Butanone (MEK)	**33600**	ug/L	2000	200		09/09/14 20:36	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/09/14 20:36	56-23-5	
Chloroethane	ND	ug/L	200	200		09/09/14 20:36	75-00-3	
Chloroform	ND	ug/L	200	200		09/09/14 20:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/09/14 20:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/09/14 20:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 20:36	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/09/14 20:36	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/09/14 20:36	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/09/14 20:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/09/14 20:36	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/09/14 20:36	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/09/14 20:36	127-18-4	
Toluene	ND	ug/L	200	200		09/09/14 20:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/09/14 20:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/09/14 20:36	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/09/14 20:36	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/09/14 20:36	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/09/14 20:36	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/09/14 20:36	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		09/09/14 20:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		09/09/14 20:36	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/09/14 20:36		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**289**	mg/L	5.0	1		09/09/14 14:43		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Sample: 316-415 **Lab ID: 60177476001** Collected: 09/08/14 08:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.5**	mg/L	5.0	1		09/09/14 14:48		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2020**	mg/L	5.0	1		09/11/14 10:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		09/09/14 16:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**21100**	mg/L	2.0	1	09/08/14 16:54	09/13/14 12:45		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**441**	mg/L	20.0	200		09/10/14 11:34	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**40000**	mg/L	5000	500		09/11/14 07:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Sample: TRIP BLANK **Lab ID: 60177476002** Collected: 09/08/14 08:00 Received: 09/08/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/09/14 19:34	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/09/14 19:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/09/14 19:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/09/14 19:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/09/14 19:34	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/09/14 19:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/09/14 19:34	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/09/14 19:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/09/14 19:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/09/14 19:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/09/14 19:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 19:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/09/14 19:34	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/09/14 19:34	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/09/14 19:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/09/14 19:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/09/14 19:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/09/14 19:34	127-18-4	
Toluene	ND	ug/L	1.0	1		09/09/14 19:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/09/14 19:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/09/14 19:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/09/14 19:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/09/14 19:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/09/14 19:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		09/09/14 19:34	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/09/14 19:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/09/14 19:34	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/09/14 19:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: MERP/8788
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177476001

METHOD BLANK: 1440060 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/10/14 10:16	

LABORATORY CONTROL SAMPLE: 1440061

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: 1440062 1440063

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	27.6	150	150	142	124	76	64	70-130	13	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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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: MERP/8794
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177476001

METHOD BLANK: 1441341 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/12/14 14:05	

LABORATORY CONTROL SAMPLE: 1441342

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: 1441343 1441344

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	2.7	2.8	54	56	70-130	4	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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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: MPRP/28846
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177476001

METHOD BLANK: 1439639
Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/12/14 17:03	
Antimony	ug/L	ND	10.0	09/12/14 17:03	
Arsenic	ug/L	ND	10.0	09/12/14 17:03	
Beryllium	ug/L	ND	1.0	09/12/14 17:03	
Cadmium	ug/L	ND	5.0	09/12/14 17:03	
Chromium	ug/L	ND	5.0	09/12/14 17:03	
Cobalt	ug/L	ND	5.0	09/12/14 17:03	
Copper	ug/L	ND	10.0	09/12/14 17:03	
Iron	ug/L	ND	50.0	09/12/14 17:03	
Lead	ug/L	ND	5.0	09/12/14 17:03	
Nickel	ug/L	ND	5.0	09/12/14 17:03	
Selenium	ug/L	ND	15.0	09/12/14 17:03	
Silver	ug/L	ND	7.0	09/12/14 17:03	
Thallium	ug/L	ND	20.0	09/12/14 17:03	
Zinc	ug/L	ND	50.0	09/12/14 17:03	

LABORATORY CONTROL SAMPLE: 1439640

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	11000	110	85-115	
Antimony	ug/L	1000	1120	112	85-115	
Arsenic	ug/L	1000	1080	108	85-115	
Beryllium	ug/L	1000	1100	110	85-115	
Cadmium	ug/L	1000	1100	110	85-115	
Chromium	ug/L	1000	1100	110	85-115	
Cobalt	ug/L	1000	1130	113	85-115	
Copper	ug/L	1000	1100	110	85-115	
Iron	ug/L	10000	11200	112	85-115	
Lead	ug/L	1000	1120	112	85-115	
Nickel	ug/L	1000	1130	113	85-115	
Selenium	ug/L	1000	1080	108	85-115	
Silver	ug/L	500	549	110	85-115	
Thallium	ug/L	1000	1110	111	85-115	
Zinc	ug/L	1000	1110	111	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1439641 1439642

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	20600	50000	50000	89500	84400	138	128	70-130	6	8	M1
Antimony	ug/L	ND	5000	5000	5460	5350	109	107	70-130	2	7	
Arsenic	ug/L	879	5000	5000	6360	6270	110	108	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	5170	5160	103	103	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5380	5320	108	106	70-130	1	10	
Chromium	ug/L	268	5000	5000	5320	5280	101	100	70-130	1	10	
Cobalt	ug/L	36.0	5000	5000	5120	5060	102	100	70-130	1	6	
Copper	ug/L	ND	5000	5000	5450	5380	108	107	70-130	1	11	
Iron	ug/L	730000	50000	50000	783000	772000	107	86	70-130	1	10	
Lead	ug/L	175	5000	5000	5120	5000	99	96	70-130	2	10	
Nickel	ug/L	122	5000	5000	5180	5100	101	100	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5760	5660	115	113	70-130	2	10	
Silver	ug/L	ND	2500	2500	2710	2690	108	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4640	4570	93	91	70-130	1	6	
Zinc	ug/L	6680	5000	5000	11700	11100	101	89	70-130	5	11	

MATRIX SPIKE SAMPLE: 1439643

Parameter	Units	60177476001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	7540	50000	64600	114	70-130	
Antimony	ug/L	ND	5000	5460	109	70-130	
Arsenic	ug/L	788	5000	6180	108	70-130	
Beryllium	ug/L	ND	5000	5220	104	70-130	
Cadmium	ug/L	ND	5000	5330	107	70-130	
Chromium	ug/L	214	5000	5260	101	70-130	
Cobalt	ug/L	ND	5000	5060	101	70-130	
Copper	ug/L	ND	5000	5420	108	70-130	
Iron	ug/L	687000	50000	720000	65	70-130	M1
Lead	ug/L	105	5000	5010	98	70-130	
Nickel	ug/L	93.4	5000	5130	101	70-130	
Selenium	ug/L	ND	5000	5740	114	70-130	
Silver	ug/L	ND	2500	2700	108	70-130	
Thallium	ug/L	ND	5000	4650	93	70-130	
Zinc	ug/L	4460	5000	9090	93	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: MPRP/28864
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177476001

METHOD BLANK: 1440479
Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 17:47	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 17:47	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 17:47	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 17:47	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 17:47	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 17:47	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 17:47	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 17:47	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 17:47	

LABORATORY CONTROL SAMPLE: 1440480

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	995	100	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1040	104	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	512	102	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440481 1440482

Parameter	Units	60177473001 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	1600	50000	50000	54200	53400	105	104	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5480	5420	109	108	70-130	1	7	
Arsenic, Dissolved	ug/L	614	5000	5000	5970	5900	107	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5160	5100	103	102	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5260	5200	105	104	70-130	1	10	
Chromium, Dissolved	ug/L	136	5000	5000	5120	5040	100	98	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4990	4950	100	99	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5400	5320	108	106	70-130	1	11	
Iron, Dissolved	ug/L	241000	50000	50000	294000	289000	106	95	70-130	2	10	
Lead, Dissolved	ug/L	25.9	5000	5000	4940	4900	98	97	70-130	1	10	
Nickel, Dissolved	ug/L	63.6	5000	5000	5080	5020	100	99	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5600	112	111	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2620	107	105	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4640	4580	93	92	70-130	1	6	
Zinc, Dissolved	ug/L	3070	5000	5000	7800	7700	95	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: MSV/64291 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177476001, 60177476002

METHOD BLANK: 1439874 Matrix: Water
Associated Lab Samples: 60177476001, 60177476002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/09/14 17:46	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,2-Dichloroethane	ug/L	ND	1.0	09/09/14 17:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/09/14 17:46	
2-Butanone (MEK)	ug/L	ND	10.0	09/09/14 17:46	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/09/14 17:46	N2
Acetone	ug/L	ND	10.0	09/09/14 17:46	N2
Benzene	ug/L	ND	1.0	09/09/14 17:46	
Bromodichloromethane	ug/L	ND	1.0	09/09/14 17:46	
Bromoform	ug/L	ND	1.0	09/09/14 17:46	
Bromomethane	ug/L	ND	5.0	09/09/14 17:46	
Carbon tetrachloride	ug/L	ND	1.0	09/09/14 17:46	
Chloroethane	ug/L	ND	1.0	09/09/14 17:46	
Chloroform	ug/L	1.1	1.0	09/09/14 17:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	N2
Ethylbenzene	ug/L	ND	1.0	09/09/14 17:46	
Methylene chloride	ug/L	1.0	1.0	09/09/14 17:46	
Tetrachloroethene	ug/L	ND	1.0	09/09/14 17:46	
Toluene	ug/L	ND	1.0	09/09/14 17:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Trichloroethene	ug/L	ND	1.0	09/09/14 17:46	
Vinyl chloride	ug/L	ND	1.0	09/09/14 17:46	
Xylene (Total)	ug/L	ND	3.0	09/09/14 17:46	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/09/14 17:46	
4-Bromofluorobenzene (S)	%	97	80-120	09/09/14 17:46	
Toluene-d8 (S)	%	99	80-120	09/09/14 17:46	

LABORATORY CONTROL SAMPLE: 1439875

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	19.4	97	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.6	103	67-124	
1,2-Dichloroethane	ug/L	20	18.7	93	70-126	
1,4-Dichlorobenzene	ug/L	20	19.7	98	74-120	
2-Butanone (MEK)	ug/L	100	96.4	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	91.2	91	59-131	N2
Acetone	ug/L	100	95.8	96	38-134	N2
Benzene	ug/L	20	17.6	88	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

LABORATORY CONTROL SAMPLE: 1439875

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.1	100	68-125	
Bromoform	ug/L	20	21.0	105	65-127	
Bromomethane	ug/L	20	16.8	84	13-157	
Carbon tetrachloride	ug/L	20	19.5	97	70-131	
Chloroethane	ug/L	20	18.9	94	47-133	
Chloroform	ug/L	20	21.3	106	65-127	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	68-127	N2
Ethylbenzene	ug/L	20	19.9	99	74-122	
Methylene chloride	ug/L	20	19.8	99	64-129	
Tetrachloroethene	ug/L	20	19.3	96	73-125	
Toluene	ug/L	20	18.6	93	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.9	99	66-129	
Trichloroethene	ug/L	20	18.5	92	71-123	
Vinyl chloride	ug/L	20	16.8	84	43-129	
Xylene (Total)	ug/L	60	60.2	100	75-121	N2
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4340	108	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3600	90	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3670	92	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3450	86	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3690	91	33-140	
2-Butanone (MEK)	ug/L	27800	20000	56000	141	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	17700	86	40-160	N2
Benzene	ug/L	ND	4000	3330	83	37-151	
Bromodichloromethane	ug/L	ND	4000	3700	93	35-142	
Bromoform	ug/L	ND	4000	3800	95	45-142	
Bromomethane	ug/L	ND	4000	3240	81	10-158	
Carbon tetrachloride	ug/L	ND	4000	3720	93	70-140	
Chloroethane	ug/L	ND	4000	3310	83	19-152	
Chloroform	ug/L	ND	4000	3830	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3830	96	34-147	N2
Ethylbenzene	ug/L	ND	4000	3710	93	40-142	
Methylene chloride	ug/L	ND	4000	3370	83	31-144	
Tetrachloroethene	ug/L	ND	4000	3960	99	64-148	
Toluene	ug/L	ND	4000	3500	88	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3690	92	54-151	
Trichloroethene	ug/L	ND	4000	3550	89	71-149	
Vinyl chloride	ug/L	ND	4000	3460	87	22-146	
Xylene (Total)	ug/L	ND	12000	11400	95	37-144	N2

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

MATRIX SPIKE SAMPLE: 1439876

Parameter	Units	60177473001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: OEXT/46049 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60177476001

METHOD BLANK: 1439471 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/10/14 12:28	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/10/14 12:28	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/10/14 12:28	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/10/14 12:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/10/14 12:28	
Hexachloroethane	ug/L	ND	5.0	09/10/14 12:28	
Naphthalene	ug/L	ND	5.0	09/10/14 12:28	
Nitrobenzene	ug/L	ND	5.0	09/10/14 12:28	
Pentachlorophenol	ug/L	ND	5.0	09/10/14 12:28	
Phenol	ug/L	ND	5.0	09/10/14 12:28	
2,4,6-Tribromophenol (S)	%	89	39-120	09/10/14 12:28	
2-Fluorobiphenyl (S)	%	86	39-120	09/10/14 12:28	
2-Fluorophenol (S)	%	40	17-120	09/10/14 12:28	
Nitrobenzene-d5 (S)	%	85	33-120	09/10/14 12:28	
Phenol-d6 (S)	%	30	11-120	09/10/14 12:28	
Terphenyl-d14 (S)	%	89	45-120	09/10/14 12:28	

LABORATORY CONTROL SAMPLE: 1439472

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.8	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.0	74	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.4	67	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.6	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.7	73	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.5	57	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	41.1	82	48-120	
Nitrobenzene	ug/L	50	42.6	85	48-120	
Pentachlorophenol	ug/L	50	51.7	103	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			53	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			87	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

MATRIX SPIKE SAMPLE: 1439473

Parameter	Units	60177351001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	57.5	38.2	66	44-120	
2,4,6-Trichlorophenol	ug/L	ND	57.5	60.9	106	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	57.5	43.1	75	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	57.5	40.2	70	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	57.5	77.8	135	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	57.5	31.4	55	39-116	
Hexachlorocyclopentadiene	ug/L	ND	115	54.7	48	11-120	
Hexachloroethane	ug/L	ND	57.5	31.0	54	40-113	
Naphthalene	ug/L	ND	57.5	40.4	70	45-120	
Nitrobenzene	ug/L	ND	57.5	47.9	83	38-120	
Pentachlorophenol	ug/L	ND	57.5	75.6	132	43-135	
Phenol	ug/L	ND	57.5	20.3	35	13-112	
2,4,6-Tribromophenol (S)	%				112	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				84	33-120	
Phenol-d6 (S)	%				32	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 316-415
Pace Project No.: 60177476

QC Batch: WET/50144
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177476001

METHOD BLANK: 1439963 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/09/14 14:38	

LABORATORY CONTROL SAMPLE: 1439964

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.5	104	78-114	

MATRIX SPIKE SAMPLE: 1439966

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.4	98	78-114	

SAMPLE DUPLICATE: 1439965

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	324	335	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WET/50148
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177476001

METHOD BLANK: 1439978
Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/14 14:47	

LABORATORY CONTROL SAMPLE: 1439979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.5	102	64-132	

MATRIX SPIKE SAMPLE: 1439981

Parameter	Units	60177266002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20	12.9	60	64-132	M1

SAMPLE DUPLICATE: 1439980

Parameter	Units	60177474001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.0	8.3	32	34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WET/50188
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177476001

METHOD BLANK: 1441028
Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/11/14 10:02	

SAMPLE DUPLICATE: 1441030

Parameter	Units	60177478002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	ND		10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WET/50149
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177476001

SAMPLE DUPLICATE: 1439982

Parameter	Units	60177473001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WET/50124
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177476001

METHOD BLANK: 1439402 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/13/14 12:29	

LABORATORY CONTROL SAMPLE: 1439403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	200	101	85-115	

SAMPLE DUPLICATE: 1439404

Parameter	Units	60177464002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	741	740	0	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WETA/30940 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177476001

METHOD BLANK: 1440202 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/10/14 11:13	

LABORATORY CONTROL SAMPLE: 1440203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.2	109	90-110	

MATRIX SPIKE SAMPLE: 1440204

Parameter	Units	60177328001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.48	2	2.2	84	90-110	M1

MATRIX SPIKE SAMPLE: 1440205

Parameter	Units	60177405003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.3	115	90-110	M1

SAMPLE DUPLICATE: 1440206

Parameter	Units	60177478002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	3.9	3.9	1	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

QC Batch: WETA/30958 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177476001

METHOD BLANK: 1440380 Matrix: Water
Associated Lab Samples: 60177476001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/11/14 07:38	

LABORATORY CONTROL SAMPLE: 1440381

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.0	98	90-110	

MATRIX SPIKE SAMPLE: 1440382

Parameter	Units	60177476001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	40000	25000	64500	98	90-110	

MATRIX SPIKE SAMPLE: 1440384

Parameter	Units	60177128001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	29.6	50	87.3	115	90-110	M1

SAMPLE DUPLICATE: 1440383

Parameter	Units	60177020002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	66.5	69.2	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-415
Pace Project No.: 60177476

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177476001	**316-415**	EPA 200.7	MPRP/28846	EPA 200.7	ICP/21742
60177476001	**316-415**	EPA 200.7	MPRP/28864	EPA 200.7	ICP/21754
60177476001	**316-415**	EPA 245.1	MERP/8788	EPA 245.1	MERC/8742
60177476001	**316-415**	EPA 245.1	MERP/8794	EPA 245.1	MERC/8753
60177476001	**316-415**	EPA 625	OEXT/46049	EPA 625	MSSV/14788
60177476001	**316-415**	EPA 624 Low	MSV/64291		
60177476002	**TRIP BLANK**	EPA 624 Low	MSV/64291		
60177476001	**316-415**	EPA 1664A	WET/50144		
60177476001	**316-415**	EPA 1664A	WET/50148		
60177476001	**316-415**	SM 2540D	WET/50188		
60177476001	**316-415**	SM 4500-H+B	WET/50149		
60177476001	**316-415**	SM 5210B	WET/50124	SM 5210B	WET/50262
60177476001	**316-415**	EPA 350.1	WETA/30940		
60177476001	**316-415**	EPA 410.4	WETA/30958		

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Sample Condition Upon Receipt

WO#: 60177476

60177476

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 9.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 9/8

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:	DT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	DP1S initial pH 5.0 added 1mL Final 3.5 DP3N Initial 6.0 added 2.5mL Final pH 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed JB / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 8/25/14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	loc 5 DRM 316.415
		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: 9/10

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)	60177476
1	(4)BP2U 3/6-4/5 BP3H (3)AF3S (2)AF4U	OT	G	BP3S 85	BP3U 40	9/8/14	3200		14	10	4	1	0	(5)DG4U			X	X	X	X	X	X	X	X	X	X	X					W1
2	TRIP BLANK (2)DG4U								2	2														X							CU2
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	9-8-14	9:00am	DOV Yates	9-8-14	0940				
SITE ADDRESS: BRIDGETON LF				Pace	9/8	1300	9.4	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:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 9/8/14				

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

September 17, 2014

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

RE: Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

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 T1-001
Pace Project No.: 60177595

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177595001	**T1-001**	Water	09/09/14 08:45	09/10/14 02:00
60177595002	**TRIP BLANK**	Water	09/09/14 08:45	09/10/14 02:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177595001	**T1-001**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	ZBM	1
		EPA 245.1	SMW	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	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177595002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Sample: T1-001 **Lab ID: 60177595001** Collected: 09/09/14 08:45 Received: 09/10/14 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	**9940**	ug/L	375	1	09/15/14 09:00	09/16/14 12:40	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:40	7440-36-0	
Arsenic	**701**	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:40	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/15/14 09:00	09/16/14 12:40	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:40	7440-43-9	
Chromium	**185**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:40	7440-47-3	
Cobalt	**28.7**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:40	7440-48-4	
Copper	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:40	7440-50-8	
Iron	**600000**	ug/L	250	1	09/15/14 09:00	09/16/14 12:40	7439-89-6	
Lead	**112**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:40	7439-92-1	
Nickel	**89.5**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:40	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/15/14 09:00	09/16/14 12:40	7782-49-2	
Silver	ND	ug/L	35.0	1	09/15/14 09:00	09/16/14 12:40	7440-22-4	
Thallium	ND	ug/L	100	1	09/15/14 09:00	09/16/14 12:40	7440-28-0	
Zinc	**4670**	ug/L	250	1	09/15/14 09:00	09/16/14 12:40	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**1520**	ug/L	375	1	09/10/14 18:20	09/12/14 18:14	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:14	7440-36-0	
Arsenic, Dissolved	**508**	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:14	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/10/14 18:20	09/12/14 18:14	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:14	7440-43-9	
Chromium, Dissolved	**138**	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:14	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:14	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/10/14 18:20	09/12/14 18:14	7440-50-8	
Iron, Dissolved	**264000**	ug/L	250	1	09/10/14 18:20	09/12/14 18:14	7439-89-6	
Lead, Dissolved	**38.7**	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:14	7439-92-1	
Nickel, Dissolved	**65.2**	ug/L	25.0	1	09/10/14 18:20	09/12/14 18:14	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/10/14 18:20	09/12/14 18:14	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/10/14 18:20	09/12/14 18:14	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/10/14 18:20	09/12/14 18:14	7440-28-0	
Zinc, Dissolved	**3530**	ug/L	250	1	09/10/14 18:20	09/12/14 18:14	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/12/14 15:50	09/15/14 15:43	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/11/14 17:30	09/12/14 14:25	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/13/14 00:00	09/15/14 13:29	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/13/14 00:00	09/15/14 13:29	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4670**	ug/L	4000	2	09/13/14 00:00	09/15/14 13:29		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Sample: T1-001 **Lab ID: 60177595001** Collected: 09/09/14 08:45 Received: 09/10/14 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	09/13/14 00:00	09/15/14 13:29	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	87-86-5	
Phenol	**6680**	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:29	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	104	%	33-120	2	09/13/14 00:00	09/15/14 13:29	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	2	09/13/14 00:00	09/15/14 13:29	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	2	09/13/14 00:00	09/15/14 13:29	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	09/13/14 00:00	09/15/14 13:29	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	09/13/14 00:00	09/15/14 13:29	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	09/13/14 00:00	09/15/14 13:29	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**67000**	ug/L	2000	200		09/16/14 13:34	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 13:34	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 13:34	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 13:34	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 13:34	74-83-9	
2-Butanone (MEK)	**25100**	ug/L	2000	200		09/16/14 13:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 13:34	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 13:34	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 13:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 13:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 13:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 13:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 13:34	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 13:34	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 13:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 13:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 13:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 13:34	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 13:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 13:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 13:34	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 13:34	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 13:34	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 13:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		09/16/14 13:34	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		09/16/14 13:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		09/16/14 13:34	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 13:34		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**601**	mg/L	5.0	1		09/17/14 11:19		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Sample: T1-001 **Lab ID: 60177595001** Collected: 09/09/14 08:45 Received: 09/10/14 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	**13.3**	mg/L	5.0	1		09/17/14 11:21		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2060**	mg/L	5.0	1		09/12/14 11:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.3**	Std. Units	0.10	1		09/14/14 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**22200**	mg/L	2.0	1	09/10/14 15:12	09/15/14 17:33		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**379**	mg/L	20.0	200		09/16/14 13:27	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**34900**	mg/L	5000	500		09/16/14 08:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Sample: TRIP BLANK **Lab ID: 60177595002** Collected: 09/09/14 08:45 Received: 09/10/14 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		09/16/14 13:50	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 13:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 13:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 13:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 13:50	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 13:50	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 13:50	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 13:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 13:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 13:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 13:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 13:50	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 13:50	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 13:50	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 13:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 13:50	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 13:50	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 13:50	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 13:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 13:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 13:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 13:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 13:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 13:50	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		09/16/14 13:50	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/16/14 13:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/16/14 13:50	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 13:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: MERP/8799
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177595001

METHOD BLANK: 1441881 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/15/14 15:39	

LABORATORY CONTROL SAMPLE: 1441882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1441883 1441884

Parameter	Units	60177710001 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	128	93.9	85	63	70-130	31	20	M1,R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: MERP/8794
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177595001

METHOD BLANK: 1441341 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/12/14 14:05	

LABORATORY CONTROL SAMPLE: 1441342

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: 1441343 1441344

Parameter	Units	60177473001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	2.7	2.8	54	56	70-130	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: MPRP/28905
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177595001

METHOD BLANK: 1442245
Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/16/14 12:36	
Antimony	ug/L	ND	10.0	09/16/14 12:36	
Arsenic	ug/L	ND	10.0	09/16/14 12:36	
Beryllium	ug/L	ND	1.0	09/16/14 12:36	
Cadmium	ug/L	ND	5.0	09/16/14 12:36	
Chromium	ug/L	ND	5.0	09/16/14 12:36	
Cobalt	ug/L	ND	5.0	09/16/14 12:36	
Copper	ug/L	ND	10.0	09/16/14 12:36	
Iron	ug/L	ND	50.0	09/16/14 12:36	
Lead	ug/L	ND	5.0	09/16/14 12:36	
Nickel	ug/L	ND	5.0	09/16/14 12:36	
Selenium	ug/L	ND	15.0	09/16/14 12:36	
Silver	ug/L	ND	7.0	09/16/14 12:36	
Thallium	ug/L	ND	20.0	09/16/14 12:36	
Zinc	ug/L	ND	50.0	09/16/14 12:36	

LABORATORY CONTROL SAMPLE: 1442246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9380	94	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	946	95	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9620	96	85-115	
Lead	ug/L	1000	989	99	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	997	100	85-115	
Silver	ug/L	500	502	100	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	965	96	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1442247 1442248

Parameter	Units	60177710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7460	50000	50000	60600	60200	106	106	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5480	5360	110	107	70-130	2	7	
Arsenic	ug/L	762	5000	5000	6200	6240	109	109	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4720	4630	94	93	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5380	5280	107	106	70-130	2	10	
Chromium	ug/L	185	5000	5000	4810	4750	92	91	70-130	1	10	
Cobalt	ug/L	28.6	5000	5000	5080	4970	101	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5280	108	105	70-130	2	11	
Iron	ug/L	602000	50000	50000	642000	720000	81	235	70-130	11	10	M1,R1
Lead	ug/L	103	5000	5000	4790	4690	94	92	70-130	2	10	
Nickel	ug/L	91.8	5000	5000	5010	4910	98	96	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5560	5540	111	111	70-130	0	10	
Silver	ug/L	ND	2500	2500	2630	2580	104	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4630	4480	93	90	70-130	3	6	
Zinc	ug/L	4580	5000	5000	9020	9520	89	99	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: MPRP/28877
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177595001

METHOD BLANK: 1440827
Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/12/14 18:05	
Antimony, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Arsenic, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Beryllium, Dissolved	ug/L	ND	1.0	09/12/14 18:05	
Cadmium, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Chromium, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Cobalt, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Copper, Dissolved	ug/L	ND	10.0	09/12/14 18:05	
Iron, Dissolved	ug/L	ND	50.0	09/12/14 18:05	
Lead, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Nickel, Dissolved	ug/L	ND	5.0	09/12/14 18:05	
Selenium, Dissolved	ug/L	ND	15.0	09/12/14 18:05	
Silver, Dissolved	ug/L	ND	7.0	09/12/14 18:05	
Thallium, Dissolved	ug/L	ND	20.0	09/12/14 18:05	
Zinc, Dissolved	ug/L	ND	50.0	09/12/14 18:05	

LABORATORY CONTROL SAMPLE: 1440828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	1050	105	85-115	
Arsenic, Dissolved	ug/L	1000	996	100	85-115	
Beryllium, Dissolved	ug/L	1000	1070	107	85-115	
Cadmium, Dissolved	ug/L	1000	1010	101	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	1020	102	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1440829 1440830

Parameter	Units	60177474001 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	1580	50000	50000	54400	55300	106	107	70-130	2	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5460	5550	109	111	70-130	2	7	
Arsenic, Dissolved	ug/L	586	5000	5000	5950	6040	107	109	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5200	5260	104	105	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5270	5340	105	107	70-130	1	10	
Chromium, Dissolved	ug/L	142	5000	5000	5130	5220	100	101	70-130	2	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5010	5060	100	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5420	5540	108	111	70-130	2	11	
Iron, Dissolved	ug/L	251000	50000	50000	302000	304000	102	107	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4970	4980	99	99	70-130	0	10	
Nickel, Dissolved	ug/L	68.4	5000	5000	5100	5140	101	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5660	5780	113	115	70-130	2	10	
Silver, Dissolved	ug/L	ND	2500	2500	2670	2730	106	109	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4720	93	94	70-130	2	6	
Zinc, Dissolved	ug/L	3190	5000	5000	7940	8030	95	97	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: MSV/64416 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177595001, 60177595002

METHOD BLANK: 1443372 Matrix: Water
Associated Lab Samples: 60177595001, 60177595002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: OEXT/46107
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177595001

METHOD BLANK: 1441683
Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/15/14 12:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/15/14 12:27	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/15/14 12:27	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/15/14 12:27	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/15/14 12:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/15/14 12:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/15/14 12:27	
Hexachloroethane	ug/L	ND	5.0	09/15/14 12:27	
Naphthalene	ug/L	ND	5.0	09/15/14 12:27	
Nitrobenzene	ug/L	ND	5.0	09/15/14 12:27	
Pentachlorophenol	ug/L	ND	5.0	09/15/14 12:27	
Phenol	ug/L	ND	5.0	09/15/14 12:27	
2,4,6-Tribromophenol (S)	%	62	39-120	09/15/14 12:27	
2-Fluorobiphenyl (S)	%	79	39-120	09/15/14 12:27	
2-Fluorophenol (S)	%	36	17-120	09/15/14 12:27	
Nitrobenzene-d5 (S)	%	75	33-120	09/15/14 12:27	
Phenol-d6 (S)	%	20	11-120	09/15/14 12:27	
Terphenyl-d14 (S)	%	95	45-120	09/15/14 12:27	

LABORATORY CONTROL SAMPLE: 1441684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.7	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.4	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.5	71	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.0	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	36.3	73	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.5	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.5	43	24-120	
Hexachloroethane	ug/L	50	39.5	79	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	15.9	32	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			88	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 T1-001
Pace Project No.: 60177595

MATRIX SPIKE SAMPLE: 1441685

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4060	81	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	5060	101	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3920	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4370	5000	8540	84	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4460J	89	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	4170	83	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4780	48	11-120	
Hexachloroethane	ug/L	ND	5000	3670	73	40-113	
Naphthalene	ug/L	ND	5000	4400	88	45-120	
Nitrobenzene	ug/L	ND	5000	4980	100	38-120	
Pentachlorophenol	ug/L	ND	5000	5660	113	43-135	
Phenol	ug/L	6000	5000	8920	58	13-112	
2,4,6-Tribromophenol (S)	%				103	39-120	
2-Fluorobiphenyl (S)	%				88	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				109	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WET/50267
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177595001

METHOD BLANK: 1443096 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/17/14 11:19	

LABORATORY CONTROL SAMPLE: 1443097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	34.7	87	78-114	

MATRIX SPIKE SAMPLE: 1443098

Parameter	Units	60177134001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.8	38.4	90	78-114	

SAMPLE DUPLICATE: 1443099

Parameter	Units	5010395001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	23.1	20.8	10	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WET/50268 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177595001

METHOD BLANK: 1443103 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/17/14 11:21	

LABORATORY CONTROL SAMPLE: 1443104

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: 1443105

Parameter	Units	60177134001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.4	14.3	66	64-132	

SAMPLE DUPLICATE: 1443106

Parameter	Units	5010395001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.3	6.4	2	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WET/50221
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177595001

METHOD BLANK: 1441846
Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/12/14 11:32	

SAMPLE DUPLICATE: 1441847

Parameter	Units	10280534003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2980	2770	7	10	

SAMPLE DUPLICATE: 1441848

Parameter	Units	60177592002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	148	152	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WET/50250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177595001

SAMPLE DUPLICATE: 1442822

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WET/50169 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177595001

METHOD BLANK: 1440712 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/15/14 17:19	

LABORATORY CONTROL SAMPLE: 1440713

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	103	85-115	

SAMPLE DUPLICATE: 1440714

Parameter	Units	60177626001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1280	1330	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

QC Batch: WETA/31017 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177595001

METHOD BLANK: 1443277 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/16/14 13:10	

LABORATORY CONTROL SAMPLE: 1443278

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1443279

Parameter	Units	60177252003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	98	90-110	

SAMPLE DUPLICATE: 1443280

Parameter	Units	60177252004 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 T1-001
Pace Project No.: 60177595

QC Batch: WETA/31005 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177595001

METHOD BLANK: 1442869 Matrix: Water
Associated Lab Samples: 60177595001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/16/14 08:17	

LABORATORY CONTROL SAMPLE: 1442870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1442873

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	27500	25000	50800	93	90-110	

MATRIX SPIKE SAMPLE: 1442877

Parameter	Units	60177595001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	34900	25000	60100	101	90-110	

SAMPLE DUPLICATE: 1442872

Parameter	Units	60177907003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2130	2060	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 T1-001
Pace Project No.: 60177595

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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-001
Pace Project No.: 60177595

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177595001	**T1-001**	EPA 200.7	MPRP/28905	EPA 200.7	ICP/21781
60177595001	**T1-001**	EPA 200.7	MPRP/28877	EPA 200.7	ICP/21755
60177595001	**T1-001**	EPA 245.1	MERP/8799	EPA 245.1	MERC/8756
60177595001	**T1-001**	EPA 245.1	MERP/8794	EPA 245.1	MERC/8753
60177595001	**T1-001**	EPA 625	OEXT/46107	EPA 625	MSSV/14807
60177595001	**T1-001**	EPA 624 Low	MSV/64416		
60177595002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177595001	**T1-001**	EPA 1664A	WET/50267		
60177595001	**T1-001**	EPA 1664A	WET/50268		
60177595001	**T1-001**	SM 2540D	WET/50221		
60177595001	**T1-001**	SM 4500-H+B	WET/50250		
60177595001	**T1-001**	SM 5210B	WET/50169	SM 5210B	WET/50278
60177595001	**T1-001**	EPA 350.1	WETA/31017		
60177595001	**T1-001**	EPA 410.4	WETA/31005		

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Sample Condition Upon Receipt

WO# : 60177595

60177595

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: 8.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PVG 10/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2. Temp-8.2
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3. All ice melted in cooler.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 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. 5.0/2.5
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed PV Lot # of added preservative 12513 12787
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 681814-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	4 of 5 DWAU have headspace.
		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: 10/16/14

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)	60177595
1	T1-001 2AG4U 1BP3U 3AG7S	OT	G			9/9/14	845		14	10	4	1	0	1BP3S 2-5					X	X	X	X	X	X	X	X	X	X	X	1BP3N		4.0 2BPRU 5DG9U G1
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	9-9-14	12:05	[signature] 872	9/9/14	12:05				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	9/10/14	0200	8.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 9/9/14

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

September 19, 2014

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

RE: Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 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 T1-002
Pace Project No.: 60177710

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 T1-002
Pace Project No.: 60177710

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177710001	**T1-002**	Water	09/10/14 10:30	09/11/14 03:10
60177710002	**TRIP BLANK**	Water	09/10/14 10:30	09/11/14 03:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177710001	**T1-002**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177710002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Sample: T1-002 **Lab ID: 60177710001** Collected: 09/10/14 10:30 Received: 09/11/14 03:10 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	**7460**	ug/L	375	1	09/15/14 09:00	09/16/14 12:43	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:43	7440-36-0	
Arsenic	**762**	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:43	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/15/14 09:00	09/16/14 12:43	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:43	7440-43-9	
Chromium	**185**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:43	7440-47-3	
Cobalt	**28.6**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:43	7440-48-4	
Copper	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:43	7440-50-8	
Iron	**602000**	ug/L	250	1	09/15/14 09:00	09/16/14 12:43	7439-89-6	M1,R1
Lead	**103**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:43	7439-92-1	
Nickel	**91.8**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:43	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/15/14 09:00	09/16/14 12:43	7782-49-2	
Silver	ND	ug/L	35.0	1	09/15/14 09:00	09/16/14 12:43	7440-22-4	
Thallium	ND	ug/L	100	1	09/15/14 09:00	09/16/14 12:43	7440-28-0	
Zinc	**4580**	ug/L	250	1	09/15/14 09:00	09/16/14 12:43	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**806**	ug/L	375	1	09/16/14 17:25	09/17/14 13:41	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:41	7440-36-0	
Arsenic, Dissolved	**540**	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:41	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/16/14 17:25	09/17/14 13:41	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:41	7440-43-9	
Chromium, Dissolved	**113**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:41	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:41	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:41	7440-50-8	
Iron, Dissolved	**133000**	ug/L	250	1	09/16/14 17:25	09/17/14 13:41	7439-89-6	
Lead, Dissolved	**25.7**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:41	7439-92-1	
Nickel, Dissolved	**74.8**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:41	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/16/14 17:25	09/17/14 13:41	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/16/14 17:25	09/17/14 13:41	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/16/14 17:25	09/17/14 13:41	7440-28-0	
Zinc, Dissolved	**1580**	ug/L	250	1	09/16/14 17:25	09/17/14 13:41	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/12/14 15:50	09/15/14 15:45	7439-97-6	M1,R1
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	09/17/14 10:55	09/17/14 15:08	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/13/14 00:00	09/15/14 13:50	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/13/14 00:00	09/15/14 13:50	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**4370**	ug/L	4000	2	09/13/14 00:00	09/15/14 13:50		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Sample: T1-002 **Lab ID: 60177710001** Collected: 09/10/14 10:30 Received: 09/11/14 03:10 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	09/13/14 00:00	09/15/14 13:50	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	87-86-5	
Phenol	**6000**	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/13/14 00:00	09/15/14 13:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	09/13/14 00:00	09/15/14 13:50	4165-60-0	
2-Fluorobiphenyl (S)	89	%	39-120	2	09/13/14 00:00	09/15/14 13:50	321-60-8	
Terphenyl-d14 (S)	99	%	45-120	2	09/13/14 00:00	09/15/14 13:50	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	09/13/14 00:00	09/15/14 13:50	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	09/13/14 00:00	09/15/14 13:50	367-12-4	
2,4,6-Tribromophenol (S)	101	%	39-120	2	09/13/14 00:00	09/15/14 13:50	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**44000**	ug/L	2000	200		09/16/14 16:24	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 16:24	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 16:24	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 16:24	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 16:24	74-83-9	
2-Butanone (MEK)	**21100**	ug/L	2000	200		09/16/14 16:24	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 16:24	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 16:24	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 16:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 16:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 16:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 16:24	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 16:24	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 16:24	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 16:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 16:24	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 16:24	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 16:24	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 16:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 16:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 16:24	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 16:24	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 16:24	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 16:24	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	200		09/16/14 16:24	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		09/16/14 16:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	200		09/16/14 16:24	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 16:24		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**251**	mg/L	5.0	1		09/17/14 03:02		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Sample: T1-002 **Lab ID: 60177710001** Collected: 09/10/14 10:30 Received: 09/11/14 03:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**13.5**	mg/L	5.0	1		09/17/14 06:02		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2660**	mg/L	5.0	1		09/16/14 07:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/14/14 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**17700**	mg/L	2.0	1	09/11/14 15:59	09/16/14 11:34		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**313**	mg/L	20.0	200		09/16/14 17:13	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**27500**	mg/L	5000	500		09/16/14 08:27		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Sample: TRIP BLANK **Lab ID: 60177710002** Collected: 09/10/14 10:30 Received: 09/11/14 03:10 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		09/16/14 15:07	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 15:07	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 15:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 15:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 15:07	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 15:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 15:07	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 15:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 15:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 15:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 15:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:07	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 15:07	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 15:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 15:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 15:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 15:07	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 15:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 15:07	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 15:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 15:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		09/16/14 15:07	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/16/14 15:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		09/16/14 15:07	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 15:07		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: MERP/8799
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177710001

METHOD BLANK: 1441881 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/15/14 15:39	

LABORATORY CONTROL SAMPLE: 1441882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1441883 1441884

Parameter	Units	60177710001 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	128	93.9	85	63	70-130	31	20	M1,R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: MERP/8808
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177710001

METHOD BLANK: 1444032 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/17/14 15:04	

LABORATORY CONTROL SAMPLE: 1444033

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: 1444034 1444035

Parameter	Units	60177710001 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	90.6	88.8	60	59	70-130	2	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: MPRP/28905
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177710001

METHOD BLANK: 1442245
Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/16/14 12:36	
Antimony	ug/L	ND	10.0	09/16/14 12:36	
Arsenic	ug/L	ND	10.0	09/16/14 12:36	
Beryllium	ug/L	ND	1.0	09/16/14 12:36	
Cadmium	ug/L	ND	5.0	09/16/14 12:36	
Chromium	ug/L	ND	5.0	09/16/14 12:36	
Cobalt	ug/L	ND	5.0	09/16/14 12:36	
Copper	ug/L	ND	10.0	09/16/14 12:36	
Iron	ug/L	ND	50.0	09/16/14 12:36	
Lead	ug/L	ND	5.0	09/16/14 12:36	
Nickel	ug/L	ND	5.0	09/16/14 12:36	
Selenium	ug/L	ND	15.0	09/16/14 12:36	
Silver	ug/L	ND	7.0	09/16/14 12:36	
Thallium	ug/L	ND	20.0	09/16/14 12:36	
Zinc	ug/L	ND	50.0	09/16/14 12:36	

LABORATORY CONTROL SAMPLE: 1442246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9380	94	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	946	95	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9620	96	85-115	
Lead	ug/L	1000	989	99	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	997	100	85-115	
Silver	ug/L	500	502	100	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	965	96	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1442247 1442248

Parameter	Units	60177710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7460	50000	50000	60600	60200	106	106	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5480	5360	110	107	70-130	2	7	
Arsenic	ug/L	762	5000	5000	6200	6240	109	109	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4720	4630	94	93	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5380	5280	107	106	70-130	2	10	
Chromium	ug/L	185	5000	5000	4810	4750	92	91	70-130	1	10	
Cobalt	ug/L	28.6	5000	5000	5080	4970	101	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5280	108	105	70-130	2	11	
Iron	ug/L	602000	50000	50000	642000	720000	81	235	70-130	11	10	M1,R1
Lead	ug/L	103	5000	5000	4790	4690	94	92	70-130	2	10	
Nickel	ug/L	91.8	5000	5000	5010	4910	98	96	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5560	5540	111	111	70-130	0	10	
Silver	ug/L	ND	2500	2500	2630	2580	104	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4630	4480	93	90	70-130	3	6	
Zinc	ug/L	4580	5000	5000	9020	9520	89	99	70-130	5	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: MPRP/28939
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177710001

METHOD BLANK: 1443935
Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/17/14 13:37	
Antimony, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Arsenic, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Beryllium, Dissolved	ug/L	ND	1.0	09/17/14 13:37	
Cadmium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Chromium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Cobalt, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Copper, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Iron, Dissolved	ug/L	ND	50.0	09/17/14 13:37	
Lead, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Nickel, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Selenium, Dissolved	ug/L	ND	15.0	09/17/14 13:37	
Silver, Dissolved	ug/L	ND	7.0	09/17/14 13:37	
Thallium, Dissolved	ug/L	ND	20.0	09/17/14 13:37	
Zinc, Dissolved	ug/L	ND	50.0	09/17/14 13:37	

LABORATORY CONTROL SAMPLE: 1443936

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	1060	106	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	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	1030	103	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	515	103	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443937 1443938

Parameter	Units	60177710001 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	806	50000	50000	54500	54500	107	107	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5630	5700	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	540	5000	5000	6120	6160	112	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5180	5180	104	104	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5470	5510	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	113	5000	5000	5160	5190	101	102	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5200	5230	104	104	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5490	5530	109	110	70-130	1	11	
Iron, Dissolved	ug/L	133000	50000	50000	187000	188000	107	109	70-130	1	10	
Lead, Dissolved	ug/L	25.7	5000	5000	5030	5040	100	100	70-130	0	10	
Nickel, Dissolved	ug/L	74.8	5000	5000	5200	5230	103	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5760	5760	115	115	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4730	4790	95	96	70-130	1	6	
Zinc, Dissolved	ug/L	1580	5000	5000	6470	6500	98	98	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: MSV/64416 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177710001, 60177710002

METHOD BLANK: 1443372 Matrix: Water
Associated Lab Samples: 60177710001, 60177710002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: OEXT/46107
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177710001

METHOD BLANK: 1441683
Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/15/14 12:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/15/14 12:27	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/15/14 12:27	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/15/14 12:27	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/15/14 12:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/15/14 12:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/15/14 12:27	
Hexachloroethane	ug/L	ND	5.0	09/15/14 12:27	
Naphthalene	ug/L	ND	5.0	09/15/14 12:27	
Nitrobenzene	ug/L	ND	5.0	09/15/14 12:27	
Pentachlorophenol	ug/L	ND	5.0	09/15/14 12:27	
Phenol	ug/L	ND	5.0	09/15/14 12:27	
2,4,6-Tribromophenol (S)	%	62	39-120	09/15/14 12:27	
2-Fluorobiphenyl (S)	%	79	39-120	09/15/14 12:27	
2-Fluorophenol (S)	%	36	17-120	09/15/14 12:27	
Nitrobenzene-d5 (S)	%	75	33-120	09/15/14 12:27	
Phenol-d6 (S)	%	20	11-120	09/15/14 12:27	
Terphenyl-d14 (S)	%	95	45-120	09/15/14 12:27	

LABORATORY CONTROL SAMPLE: 1441684

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.7	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	43.4	87	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	35.5	71	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.0	64	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	36.3	73	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.5	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.5	43	24-120	
Hexachloroethane	ug/L	50	39.5	79	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	44.1	88	47-120	
Phenol	ug/L	50	15.9	32	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			88	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.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

MATRIX SPIKE SAMPLE: 1441685

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4060	81	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	5060	101	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3920	78	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	4370	5000	8540	84	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4460J	89	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	4170	83	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4780	48	11-120	
Hexachloroethane	ug/L	ND	5000	3670	73	40-113	
Naphthalene	ug/L	ND	5000	4400	88	45-120	
Nitrobenzene	ug/L	ND	5000	4980	100	38-120	
Pentachlorophenol	ug/L	ND	5000	5660	113	43-135	
Phenol	ug/L	6000	5000	8920	58	13-112	
2,4,6-Tribromophenol (S)	%				103	39-120	
2-Fluorobiphenyl (S)	%				88	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				109	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				95	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WET/50330 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177710001

METHOD BLANK: 1444410 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/17/14 02:59	

LABORATORY CONTROL SAMPLE: 1444411

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.9	97	78-114	

MATRIX SPIKE SAMPLE: 1444412

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	251	190	596	181	78-114	M1

SAMPLE DUPLICATE: 1444413

Parameter	Units	60177616002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.8J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WET/50334 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177710001

METHOD BLANK: 1444434 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/17/14 06:02	

LABORATORY CONTROL SAMPLE: 1444435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.0	105	64-132	

MATRIX SPIKE SAMPLE: 1444436

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.5	95.2	78.1	68	64-132	

SAMPLE DUPLICATE: 1444437

Parameter	Units	60177616002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WET/50282
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177710001

METHOD BLANK: 1443271 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/16/14 07:52	

SAMPLE DUPLICATE: 1443272

Parameter	Units	60177931002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1443273

Parameter	Units	60177704001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	520	506	3	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WET/50250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177710001

SAMPLE DUPLICATE: 1442822

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.1	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WET/50205 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177710001

METHOD BLANK: 1441353 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/16/14 11:03	

LABORATORY CONTROL SAMPLE: 1441354

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	209	105	85-115	

SAMPLE DUPLICATE: 1441356

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	17700	19300	9	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WETA/31020
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177710001

METHOD BLANK: 1443328 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/16/14 16:48	

LABORATORY CONTROL SAMPLE: 1443329

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

MATRIX SPIKE SAMPLE: 1443333

Parameter	Units	60177648003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	69	90-110	M1

MATRIX SPIKE SAMPLE: 1443334

Parameter	Units	60177742001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	91	90-110	

SAMPLE DUPLICATE: 1443330

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	313	344	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

QC Batch: WETA/31005 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177710001

METHOD BLANK: 1442869 Matrix: Water
Associated Lab Samples: 60177710001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/16/14 08:17	

LABORATORY CONTROL SAMPLE: 1442870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1442873

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	27500	25000	50800	93	90-110	

MATRIX SPIKE SAMPLE: 1442877

Parameter	Units	60177595001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	34900	25000	60100	101	90-110	

SAMPLE DUPLICATE: 1442872

Parameter	Units	60177907003 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	2130	2060	3	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-002
Pace Project No.: 60177710

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177710001	**T1-002**	EPA 200.7	MPRP/28905	EPA 200.7	ICP/21781
60177710001	**T1-002**	EPA 200.7	MPRP/28939	EPA 200.7	ICP/21800
60177710001	**T1-002**	EPA 245.1	MERP/8799	EPA 245.1	MERC/8756
60177710001	**T1-002**	EPA 245.1	MERP/8808	EPA 245.1	MERC/8762
60177710001	**T1-002**	EPA 625	OEXT/46107	EPA 625	MSSV/14807
60177710001	**T1-002**	EPA 624 Low	MSV/64416		
60177710002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177710001	**T1-002**	EPA 1664A	WET/50330		
60177710001	**T1-002**	EPA 1664A	WET/50334		
60177710001	**T1-002**	SM 2540D	WET/50282		
60177710001	**T1-002**	SM 4500-H+B	WET/50250		
60177710001	**T1-002**	SM 5210B	WET/50205	SM 5210B	WET/50301
60177710001	**T1-002**	EPA 350.1	WETA/31020		
60177710001	**T1-002**	EPA 410.4	WETA/31005		

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Sample Condition Upon Receipt

WO#: 60177710

60177710

Client Name: Barr

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

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

Optional
Proj Due Date:
Proj Name:

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

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

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

Cooler Temperature: 2-0

Date and initials of person examining contents: pvg 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 BPSN. 6.0/4.0 Added 2.0 ml of H2SO4 to BPSS. 6.0/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: jr Lot # of added preservative: 12513 12387
Trip Blank present:	(Yes) ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 081814-7 pvg 11/14		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: 9/18/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

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

Regulatory Agency

State / Location: Missouri

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)	6017710
1	3AG3S TJ-002 1BP3U 2AG4U 3AG4U	OT	G			9/10/14	1020		14	10	4	1	0	1BP3S1-5					X	X	X	X	X	X	X	X	X	X	X	1BP3N		4.0 2BP2U 5DG9U 001
2	TRIP BLANK pvgl 1/vly								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] FSI	9-10-14	12:40	[signature]	9/10	12:39				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	9/11/14	0310	2.0	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: Hunter King

SIGNATURE of SAMPLER: Hunter King **DATE Signed:** 9/10/14

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

September 19, 2014

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

RE: Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 12, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

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 T1-003
Pace Project No.: 60177809

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177809001	**T1-003**	Water	09/11/14 09:00	09/12/14 01:25
60177809002	**TRIP BLANK**	Water	09/11/14 09:00	09/12/14 01:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177809001	**T1-003**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177809002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Sample: T1-003 **Lab ID: 60177809001** Collected: 09/11/14 09:00 Received: 09/12/14 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	**12600**	ug/L	375	1	09/15/14 09:00	09/16/14 12:50	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:50	7440-36-0	
Arsenic	**782**	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:50	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/15/14 09:00	09/16/14 12:50	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:50	7440-43-9	
Chromium	**210**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:50	7440-47-3	
Cobalt	**33.2**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:50	7440-48-4	
Copper	ND	ug/L	50.0	1	09/15/14 09:00	09/16/14 12:50	7440-50-8	
Iron	**602000**	ug/L	250	1	09/15/14 09:00	09/16/14 12:50	7439-89-6	
Lead	**103**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:50	7439-92-1	
Nickel	**112**	ug/L	25.0	1	09/15/14 09:00	09/16/14 12:50	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/15/14 09:00	09/16/14 12:50	7782-49-2	
Silver	ND	ug/L	35.0	1	09/15/14 09:00	09/16/14 12:50	7440-22-4	
Thallium	ND	ug/L	100	1	09/15/14 09:00	09/16/14 12:50	7440-28-0	
Zinc	**4540**	ug/L	250	1	09/15/14 09:00	09/16/14 12:50	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**610**	ug/L	375	1	09/16/14 17:25	09/17/14 13:48	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:48	7440-36-0	
Arsenic, Dissolved	**532**	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/16/14 17:25	09/17/14 13:48	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:48	7440-43-9	
Chromium, Dissolved	**106**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:48	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:48	7440-48-4	
Copper, Dissolved	**63.6**	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:48	7440-50-8	D9
Iron, Dissolved	**121000**	ug/L	250	1	09/16/14 17:25	09/17/14 13:48	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:48	7439-92-1	
Nickel, Dissolved	**72.8**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/16/14 17:25	09/17/14 13:48	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/16/14 17:25	09/17/14 13:48	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/16/14 17:25	09/17/14 13:48	7440-28-0	
Zinc, Dissolved	**1260**	ug/L	250	1	09/16/14 17:25	09/17/14 13:48	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**15.9**	ug/L	6.0	1	09/17/14 10:55	09/17/14 14:26	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	09/17/14 10:55	09/17/14 15:20	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/16/14 00:00	09/17/14 13:36	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/16/14 00:00	09/17/14 13:36	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3540J**	ug/L	4000	2	09/16/14 00:00	09/17/14 13:36		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Sample: T1-003 **Lab ID: 60177809001** Collected: 09/11/14 09:00 Received: 09/12/14 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	09/16/14 00:00	09/17/14 13:36	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	87-86-5	
Phenol	**5330**	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 13:36	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	101	%	33-120	2	09/16/14 00:00	09/17/14 13:36	4165-60-0	
2-Fluorobiphenyl (S)	90	%	39-120	2	09/16/14 00:00	09/17/14 13:36	321-60-8	
Terphenyl-d14 (S)	100	%	45-120	2	09/16/14 00:00	09/17/14 13:36	1718-51-0	
Phenol-d6 (S)	29	%	11-120	2	09/16/14 00:00	09/17/14 13:36	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	09/16/14 00:00	09/17/14 13:36	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	2	09/16/14 00:00	09/17/14 13:36	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**56700**	ug/L	2000	200		09/16/14 16:55	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 16:55	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 16:55	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 16:55	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 16:55	74-83-9	
2-Butanone (MEK)	**23500**	ug/L	2000	200		09/16/14 16:55	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 16:55	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 16:55	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 16:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 16:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 16:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 16:55	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 16:55	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 16:55	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 16:55	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 16:55	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 16:55	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 16:55	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 16:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 16:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 16:55	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 16:55	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 16:55	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 16:55	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		09/16/14 16:55	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		09/16/14 16:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	200		09/16/14 16:55	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 16:55		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**319**	mg/L	5.0	1		09/17/14 05:38		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Sample: T1-003 **Lab ID: 60177809001** Collected: 09/11/14 09:00 Received: 09/12/14 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	**13.6**	mg/L	5.0	1		09/17/14 06:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2200**	mg/L	5.0	1		09/17/14 19:28		D6
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/14/14 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**16500**	mg/L	2.0	1	09/12/14 14:00	09/17/14 16:14		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**361**	mg/L	20.0	200		09/16/14 17:19	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**31900**	mg/L	5000	500		09/19/14 09:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

Sample: TRIP BLANK **Lab ID: 60177809002** Collected: 09/11/14 09:00 Received: 09/12/14 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		09/16/14 15:22	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 15:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 15:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 15:22	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 15:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 15:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 15:22	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 15:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 15:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 15:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 15:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:22	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 15:22	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 15:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 15:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 15:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 15:22	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 15:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 15:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 15:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 15:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		09/16/14 15:22	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/16/14 15:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		09/16/14 15:22	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 15:22		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: MERP/8806
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177809001

METHOD BLANK: 1443802 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/14 14:22	

LABORATORY CONTROL SAMPLE: 1443803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443804 1443805

Parameter	Units	60177980001 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	109	107	69	67	70-130	2	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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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: MERP/8808
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177809001

METHOD BLANK: 1444032 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/17/14 15:04	

LABORATORY CONTROL SAMPLE: 1444033

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: 1444034 1444035

Parameter	Units	60177710001 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	90.6	88.8	60	59	70-130	2	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 T1-003
Pace Project No.: 60177809

QC Batch: MPRP/28905
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177809001

METHOD BLANK: 1442245
Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/16/14 12:36	
Antimony	ug/L	ND	10.0	09/16/14 12:36	
Arsenic	ug/L	ND	10.0	09/16/14 12:36	
Beryllium	ug/L	ND	1.0	09/16/14 12:36	
Cadmium	ug/L	ND	5.0	09/16/14 12:36	
Chromium	ug/L	ND	5.0	09/16/14 12:36	
Cobalt	ug/L	ND	5.0	09/16/14 12:36	
Copper	ug/L	ND	10.0	09/16/14 12:36	
Iron	ug/L	ND	50.0	09/16/14 12:36	
Lead	ug/L	ND	5.0	09/16/14 12:36	
Nickel	ug/L	ND	5.0	09/16/14 12:36	
Selenium	ug/L	ND	15.0	09/16/14 12:36	
Silver	ug/L	ND	7.0	09/16/14 12:36	
Thallium	ug/L	ND	20.0	09/16/14 12:36	
Zinc	ug/L	ND	50.0	09/16/14 12:36	

LABORATORY CONTROL SAMPLE: 1442246

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9380	94	85-115	
Antimony	ug/L	1000	1050	105	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	946	95	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1030	103	85-115	
Iron	ug/L	10000	9620	96	85-115	
Lead	ug/L	1000	989	99	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	997	100	85-115	
Silver	ug/L	500	502	100	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	965	96	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1442247 1442248

Parameter	Units	60177710001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7460	50000	50000	60600	60200	106	106	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5480	5360	110	107	70-130	2	7	
Arsenic	ug/L	762	5000	5000	6200	6240	109	109	70-130	1	10	
Beryllium	ug/L	ND	5000	5000	4720	4630	94	93	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5380	5280	107	106	70-130	2	10	
Chromium	ug/L	185	5000	5000	4810	4750	92	91	70-130	1	10	
Cobalt	ug/L	28.6	5000	5000	5080	4970	101	99	70-130	2	6	
Copper	ug/L	ND	5000	5000	5400	5280	108	105	70-130	2	11	
Iron	ug/L	602000	50000	50000	642000	720000	81	235	70-130	11	10	M1,R1
Lead	ug/L	103	5000	5000	4790	4690	94	92	70-130	2	10	
Nickel	ug/L	91.8	5000	5000	5010	4910	98	96	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5560	5540	111	111	70-130	0	10	
Silver	ug/L	ND	2500	2500	2630	2580	104	103	70-130	2	10	
Thallium	ug/L	ND	5000	5000	4630	4480	93	90	70-130	3	6	
Zinc	ug/L	4580	5000	5000	9020	9520	89	99	70-130	5	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: MPRP/28939
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177809001

METHOD BLANK: 1443935
Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/17/14 13:37	
Antimony, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Arsenic, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Beryllium, Dissolved	ug/L	ND	1.0	09/17/14 13:37	
Cadmium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Chromium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Cobalt, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Copper, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Iron, Dissolved	ug/L	ND	50.0	09/17/14 13:37	
Lead, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Nickel, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Selenium, Dissolved	ug/L	ND	15.0	09/17/14 13:37	
Silver, Dissolved	ug/L	ND	7.0	09/17/14 13:37	
Thallium, Dissolved	ug/L	ND	20.0	09/17/14 13:37	
Zinc, Dissolved	ug/L	ND	50.0	09/17/14 13:37	

LABORATORY CONTROL SAMPLE: 1443936

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	1060	106	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	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	1030	103	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	515	103	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443937 1443938

Parameter	Units	60177710001 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	806	50000	50000	54500	54500	107	107	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5630	5700	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	540	5000	5000	6120	6160	112	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5180	5180	104	104	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5470	5510	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	113	5000	5000	5160	5190	101	102	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5200	5230	104	104	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5490	5530	109	110	70-130	1	11	
Iron, Dissolved	ug/L	133000	50000	50000	187000	188000	107	109	70-130	1	10	
Lead, Dissolved	ug/L	25.7	5000	5000	5030	5040	100	100	70-130	0	10	
Nickel, Dissolved	ug/L	74.8	5000	5000	5200	5230	103	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5760	5760	115	115	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4730	4790	95	96	70-130	1	6	
Zinc, Dissolved	ug/L	1580	5000	5000	6470	6500	98	98	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: MSV/64416 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177809001, 60177809002

METHOD BLANK: 1443372 Matrix: Water
Associated Lab Samples: 60177809001, 60177809002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: OEXT/46148
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177809001

METHOD BLANK: 1443644
Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/17/14 12:34	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/17/14 12:34	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/17/14 12:34	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/17/14 12:34	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachloroethane	ug/L	ND	5.0	09/17/14 12:34	
Naphthalene	ug/L	ND	5.0	09/17/14 12:34	
Nitrobenzene	ug/L	ND	5.0	09/17/14 12:34	
Pentachlorophenol	ug/L	ND	5.0	09/17/14 12:34	
Phenol	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Tribromophenol (S)	%	82	39-120	09/17/14 12:34	
2-Fluorobiphenyl (S)	%	74	39-120	09/17/14 12:34	
2-Fluorophenol (S)	%	40	17-120	09/17/14 12:34	
Nitrobenzene-d5 (S)	%	66	33-120	09/17/14 12:34	
Phenol-d6 (S)	%	25	11-120	09/17/14 12:34	
Terphenyl-d14 (S)	%	97	45-120	09/17/14 12:34	

LABORATORY CONTROL SAMPLE: 1443645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.5	89	46-120	
2,4,6-Trichlorophenol	ug/L	50	49.8	100	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.4	75	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	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.7	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	52.0	52	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.0	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	57.6	115	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			99	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			104	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

MATRIX SPIKE SAMPLE: 1443646

Parameter	Units	60177809001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3710	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4430	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3540J	5000	6820	66	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4350J	87	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3500	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4270	43	11-120	
Hexachloroethane	ug/L	ND	5000	3230	65	40-113	
Naphthalene	ug/L	ND	5000	3930	79	45-120	
Nitrobenzene	ug/L	ND	5000	4550	91	38-120	
Pentachlorophenol	ug/L	ND	5000	5170	103	43-135	
Phenol	ug/L	5330	5000	7540	44	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				30	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: WET/50333 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177809001

METHOD BLANK: 1444427 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/17/14 05:36	

LABORATORY CONTROL SAMPLE: 1444428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.8	90	78-114	

MATRIX SPIKE SAMPLE: 1444430

Parameter	Units	60177712001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	41.0	97	78-114	

SAMPLE DUPLICATE: 1444429

Parameter	Units	60177588002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	5.05	2.2J		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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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: WET/50334 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177809001

METHOD BLANK: 1444434 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/17/14 06:02	

LABORATORY CONTROL SAMPLE: 1444435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.0	105	64-132	

MATRIX SPIKE SAMPLE: 1444436

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.5	95.2	78.1	68	64-132	

SAMPLE DUPLICATE: 1444437

Parameter	Units	60177616002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: WET/50318 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177809001

METHOD BLANK: 1444029 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/17/14 19:28	

SAMPLE DUPLICATE: 1444030

Parameter	Units	60177809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2200	2820	25	10	D6

SAMPLE DUPLICATE: 1444031

Parameter	Units	60177887001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	11.0	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 T1-003
Pace Project No.: 60177809

QC Batch: WET/50250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177809001

SAMPLE DUPLICATE: 1442822

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.1	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 T1-003
Pace Project No.: 60177809

QC Batch: WET/50224 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177809001

METHOD BLANK: 1441868 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/17/14 12:37	

LABORATORY CONTROL SAMPLE: 1441869

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	196	99	85-115	

SAMPLE DUPLICATE: 1441870

Parameter	Units	60177726001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	570	552	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: WETA/31020
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177809001

METHOD BLANK: 1443328 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/16/14 16:48	

LABORATORY CONTROL SAMPLE: 1443329

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

MATRIX SPIKE SAMPLE: 1443333

Parameter	Units	60177648003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.4	69	90-110	M1

MATRIX SPIKE SAMPLE: 1443334

Parameter	Units	60177742001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	91	90-110	

SAMPLE DUPLICATE: 1443330

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	313	344	9	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

QC Batch: WETA/31032 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177809001

METHOD BLANK: 1443969 Matrix: Water
Associated Lab Samples: 60177809001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/19/14 08:56	

LABORATORY CONTROL SAMPLE: 1443970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.5	105	90-110	

MATRIX SPIKE SAMPLE: 1443971

Parameter	Units	60177324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	50	65.0	103	90-110	

MATRIX SPIKE SAMPLE: 1443973

Parameter	Units	60177856002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	236	100	312	76	90-110	M1

SAMPLE DUPLICATE: 1443972

Parameter	Units	60177324001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	13.9	1	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-003
Pace Project No.: 60177809

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.
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 T1-003
Pace Project No.: 60177809

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177809001	**T1-003**	EPA 200.7	MPRP/28905	EPA 200.7	ICP/21781
60177809001	**T1-003**	EPA 200.7	MPRP/28939	EPA 200.7	ICP/21800
60177809001	**T1-003**	EPA 245.1	MERP/8806	EPA 245.1	MERC/8761
60177809001	**T1-003**	EPA 245.1	MERP/8808	EPA 245.1	MERC/8762
60177809001	**T1-003**	EPA 625	OEXT/46148	EPA 625	MSSV/14822
60177809001	**T1-003**	EPA 624 Low	MSV/64416		
60177809002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177809001	**T1-003**	EPA 1664A	WET/50333		
60177809001	**T1-003**	EPA 1664A	WET/50334		
60177809001	**T1-003**	SM 2540D	WET/50318		
60177809001	**T1-003**	SM 4500-H+B	WET/50250		
60177809001	**T1-003**	SM 5210B	WET/50224	SM 5210B	WET/50329
60177809001	**T1-003**	EPA 350.1	WETA/31020		
60177809001	**T1-003**	EPA 410.4	WETA/31032		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60177809

60177809

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: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 12/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD 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. 6.0/4.6
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. 5.0/1.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed PV Lot # of added preservative 12513 12207
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: _____ Date: 12/2/14

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:		Page: 1 Of 1
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

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)

6017809

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)	
1	T1-003 2AG4U 1BP3U 3AG5S	OT	G			9/11/14	900		14	10	4	1	0	1B	P3S	1.5			X	X	X	X	X	X	X	X	X	X	X	1B	P3N 4.0	2BP2U 5DG4U W/
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	[signature] / LBL	9/11/14	1257	Zach Schaffer PACE	9/11/14	1257				
SITE ADDRESS: BRIDGETON LF				[signature] PACE	9/12/14	0125	4.0	Y	Y	X
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 9/11/14

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

September 22, 2014

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

RE: Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 13, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

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 T1-004
Pace Project No.: 60177926

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177926001	**T1-004**	Water	09/12/14 08:15	09/13/14 01:20
60177926002	**TRIP BLANK**	Water	09/12/14 08:15	09/13/14 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177926001	**T1-004**	EPA 200.7	JGP	15
		EPA 200.7	TDS	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177926002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Sample: T1-004 **Lab ID: 60177926001** Collected: 09/12/14 08:15 Received: 09/13/14 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	**5050**	ug/L	375	1	09/18/14 10:00	09/21/14 17:09	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:09	7440-36-0	
Arsenic	**692**	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:09	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/18/14 10:00	09/21/14 17:09	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:09	7440-43-9	
Chromium	**164**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:09	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:09	7440-48-4	
Copper	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:09	7440-50-8	
Iron	**482000**	ug/L	250	1	09/18/14 10:00	09/21/14 17:09	7439-89-6	
Lead	**84.6**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:09	7439-92-1	
Nickel	**78.0**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:09	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/18/14 10:00	09/21/14 17:09	7782-49-2	
Silver	ND	ug/L	35.0	1	09/18/14 10:00	09/21/14 17:09	7440-22-4	
Thallium	ND	ug/L	100	1	09/18/14 10:00	09/21/14 17:09	7440-28-0	
Zinc	**4190**	ug/L	250	1	09/18/14 10:00	09/21/14 17:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**426**	ug/L	375	1	09/16/14 17:25	09/17/14 13:51	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:51	7440-36-0	
Arsenic, Dissolved	**508**	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:51	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/16/14 17:25	09/17/14 13:51	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:51	7440-43-9	
Chromium, Dissolved	**90.0**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:51	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:51	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/16/14 17:25	09/17/14 13:51	7440-50-8	
Iron, Dissolved	**70300**	ug/L	250	1	09/16/14 17:25	09/17/14 13:51	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:51	7439-92-1	
Nickel, Dissolved	**72.0**	ug/L	25.0	1	09/16/14 17:25	09/17/14 13:51	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/16/14 17:25	09/17/14 13:51	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/16/14 17:25	09/17/14 13:51	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/16/14 17:25	09/17/14 13:51	7440-28-0	
Zinc, Dissolved	**910**	ug/L	250	1	09/16/14 17:25	09/17/14 13:51	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10**	ug/L	6.0	1	09/17/14 10:55	09/17/14 14:35	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	09/17/14 10:55	09/17/14 15:22	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/16/14 00:00	09/17/14 16:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/16/14 00:00	09/17/14 16:22	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3090J**	ug/L	4000	2	09/16/14 00:00	09/17/14 16:22		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Sample: T1-004 **Lab ID: 60177926001** Collected: 09/12/14 08:15 Received: 09/13/14 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	09/16/14 00:00	09/17/14 16:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	87-86-5	
Phenol	**4540**	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	90	%	33-120	2	09/16/14 00:00	09/17/14 16:22	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	09/16/14 00:00	09/17/14 16:22	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	2	09/16/14 00:00	09/17/14 16:22	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	09/16/14 00:00	09/17/14 16:22	13127-88-3	
2-Fluorophenol (S)	38	%	17-120	2	09/16/14 00:00	09/17/14 16:22	367-12-4	
2,4,6-Tribromophenol (S)	84	%	39-120	2	09/16/14 00:00	09/17/14 16:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**51400**	ug/L	2000	200		09/16/14 17:11	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 17:11	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 17:11	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 17:11	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 17:11	74-83-9	
2-Butanone (MEK)	**22200**	ug/L	2000	200		09/16/14 17:11	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 17:11	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 17:11	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 17:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 17:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 17:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:11	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:11	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 17:11	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 17:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 17:11	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 17:11	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 17:11	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 17:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 17:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 17:11	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 17:11	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 17:11	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 17:11	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	200		09/16/14 17:11	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		09/16/14 17:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		09/16/14 17:11	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 17:11		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**402**	mg/L	5.0	1		09/17/14 05:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Sample: T1-004 **Lab ID: 60177926001** Collected: 09/12/14 08:15 Received: 09/13/14 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	**23.2**	mg/L	5.0	1		09/17/14 06:04		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2600**	mg/L	5.0	1		09/17/14 19:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.4**	Std. Units	0.10	1		09/14/14 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**14000**	mg/L	2.0	1	09/13/14 10:17	09/18/14 15:37		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**297**	mg/L	20.0	200		09/22/14 09:42	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**32300**	mg/L	5000	500		09/19/14 09:00		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Sample: TRIP BLANK **Lab ID: 60177926002** Collected: 09/12/14 08:15 Received: 09/13/14 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		09/16/14 15:38	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 15:38	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 15:38	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 15:38	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 15:38	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 15:38	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 15:38	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 15:38	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 15:38	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 15:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 15:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:38	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:38	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 15:38	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 15:38	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 15:38	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 15:38	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 15:38	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 15:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:38	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 15:38	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 15:38	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 15:38	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		09/16/14 15:38	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		09/16/14 15:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		09/16/14 15:38	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 15:38		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: MERP/8806
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177926001

METHOD BLANK: 1443802 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/14 14:22	

LABORATORY CONTROL SAMPLE: 1443803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443804 1443805

Parameter	Units	60177980001 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	109	107	69	67	70-130	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: MERP/8808
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177926001

METHOD BLANK: 1444032 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/17/14 15:04	

LABORATORY CONTROL SAMPLE: 1444033

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: 1444034 1444035

Parameter	Units	60177710001 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	90.6	88.8	60	59	70-130	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: MPRP/28956
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177926001

METHOD BLANK: 1444555
Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/21/14 17:02	
Antimony	ug/L	ND	10.0	09/21/14 17:02	
Arsenic	ug/L	ND	10.0	09/21/14 17:02	
Beryllium	ug/L	ND	1.0	09/21/14 17:02	
Cadmium	ug/L	ND	5.0	09/21/14 17:02	
Chromium	ug/L	ND	5.0	09/21/14 17:02	
Cobalt	ug/L	ND	5.0	09/21/14 17:02	
Copper	ug/L	ND	10.0	09/21/14 17:02	
Iron	ug/L	ND	50.0	09/21/14 17:02	
Lead	ug/L	ND	5.0	09/21/14 17:02	
Nickel	ug/L	ND	5.0	09/21/14 17:02	
Selenium	ug/L	ND	15.0	09/21/14 17:02	
Silver	ug/L	ND	7.0	09/21/14 17:02	
Thallium	ug/L	ND	20.0	09/21/14 17:02	
Zinc	ug/L	ND	50.0	09/21/14 17:02	

LABORATORY CONTROL SAMPLE: 1444556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9920	99	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	974	97	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	993	99	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	991	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	980	98	85-115	
Silver	ug/L	500	492	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	996	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444557 1444558

Parameter	Units	60177980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	664	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5430	5300	108	106	70-130	2	7	
Arsenic	ug/L	463	5000	5000	5780	5640	106	103	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5020	4900	100	98	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5280	5200	106	104	70-130	2	10	
Chromium	ug/L	88.4	5000	5000	5080	5040	100	99	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5010	4930	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5280	5180	106	104	70-130	2	11	
Iron	ug/L	62700	50000	50000	108000	103000	91	81	70-130	5	10	
Lead	ug/L	29.5	5000	5000	4770	4670	95	93	70-130	2	10	
Nickel	ug/L	67.6	5000	5000	4990	4900	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5470	5370	109	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2720	2680	109	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4520	91	90	70-130	1	6	
Zinc	ug/L	2860	5000	5000	7520	7260	93	88	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: MPRP/28939
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177926001

METHOD BLANK: 1443935
Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/17/14 13:37	
Antimony, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Arsenic, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Beryllium, Dissolved	ug/L	ND	1.0	09/17/14 13:37	
Cadmium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Chromium, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Cobalt, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Copper, Dissolved	ug/L	ND	10.0	09/17/14 13:37	
Iron, Dissolved	ug/L	ND	50.0	09/17/14 13:37	
Lead, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Nickel, Dissolved	ug/L	ND	5.0	09/17/14 13:37	
Selenium, Dissolved	ug/L	ND	15.0	09/17/14 13:37	
Silver, Dissolved	ug/L	ND	7.0	09/17/14 13:37	
Thallium, Dissolved	ug/L	ND	20.0	09/17/14 13:37	
Zinc, Dissolved	ug/L	ND	50.0	09/17/14 13:37	

LABORATORY CONTROL SAMPLE: 1443936

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	1060	106	85-115	
Arsenic, Dissolved	ug/L	1000	1020	102	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	1030	103	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	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1050	105	85-115	
Nickel, Dissolved	ug/L	1000	1070	107	85-115	
Selenium, Dissolved	ug/L	1000	1030	103	85-115	
Silver, Dissolved	ug/L	500	515	103	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443937 1443938

Parameter	Units	60177710001 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	806	50000	50000	54500	54500	107	107	70-130	0	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5630	5700	112	113	70-130	1	7	
Arsenic, Dissolved	ug/L	540	5000	5000	6120	6160	112	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5180	5180	104	104	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5470	5510	109	110	70-130	1	10	
Chromium, Dissolved	ug/L	113	5000	5000	5160	5190	101	102	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5200	5230	104	104	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5490	5530	109	110	70-130	1	11	
Iron, Dissolved	ug/L	133000	50000	50000	187000	188000	107	109	70-130	1	10	
Lead, Dissolved	ug/L	25.7	5000	5000	5030	5040	100	100	70-130	0	10	
Nickel, Dissolved	ug/L	74.8	5000	5000	5200	5230	103	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5760	5760	115	115	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2720	2720	108	108	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4730	4790	95	96	70-130	1	6	
Zinc, Dissolved	ug/L	1580	5000	5000	6470	6500	98	98	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: MSV/64416 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177926001, 60177926002

METHOD BLANK: 1443372 Matrix: Water
Associated Lab Samples: 60177926001, 60177926002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: OEXT/46148
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177926001

METHOD BLANK: 1443644
Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/17/14 12:34	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/17/14 12:34	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/17/14 12:34	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/17/14 12:34	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachloroethane	ug/L	ND	5.0	09/17/14 12:34	
Naphthalene	ug/L	ND	5.0	09/17/14 12:34	
Nitrobenzene	ug/L	ND	5.0	09/17/14 12:34	
Pentachlorophenol	ug/L	ND	5.0	09/17/14 12:34	
Phenol	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Tribromophenol (S)	%	82	39-120	09/17/14 12:34	
2-Fluorobiphenyl (S)	%	74	39-120	09/17/14 12:34	
2-Fluorophenol (S)	%	40	17-120	09/17/14 12:34	
Nitrobenzene-d5 (S)	%	66	33-120	09/17/14 12:34	
Phenol-d6 (S)	%	25	11-120	09/17/14 12:34	
Terphenyl-d14 (S)	%	97	45-120	09/17/14 12:34	

LABORATORY CONTROL SAMPLE: 1443645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.5	89	46-120	
2,4,6-Trichlorophenol	ug/L	50	49.8	100	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.4	75	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	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.7	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	52.0	52	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.0	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	57.6	115	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			99	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			104	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

MATRIX SPIKE SAMPLE: 1443646

Parameter	Units	60177809001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3710	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4430	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3540J	5000	6820	66	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4350J	87	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3500	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4270	43	11-120	
Hexachloroethane	ug/L	ND	5000	3230	65	40-113	
Naphthalene	ug/L	ND	5000	3930	79	45-120	
Nitrobenzene	ug/L	ND	5000	4550	91	38-120	
Pentachlorophenol	ug/L	ND	5000	5170	103	43-135	
Phenol	ug/L	5330	5000	7540	44	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				30	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: WET/50333
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177926001

METHOD BLANK: 1444427 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/17/14 05:36	

LABORATORY CONTROL SAMPLE: 1444428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.8	90	78-114	

MATRIX SPIKE SAMPLE: 1444430

Parameter	Units	60177712001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	41.0	97	78-114	

SAMPLE DUPLICATE: 1444429

Parameter	Units	60177588002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	5.05	2.2J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: WET/50334 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177926001

METHOD BLANK: 1444434 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/17/14 06:02	

LABORATORY CONTROL SAMPLE: 1444435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.0	105	64-132	

MATRIX SPIKE SAMPLE: 1444436

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.5	95.2	78.1	68	64-132	

SAMPLE DUPLICATE: 1444437

Parameter	Units	60177616002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: WET/50318
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177926001

METHOD BLANK: 1444029
Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/17/14 19:28	

SAMPLE DUPLICATE: 1444030

Parameter	Units	60177809001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2200	2820	25	10	D6

SAMPLE DUPLICATE: 1444031

Parameter	Units	60177887001 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 T1-004
Pace Project No.: 60177926

QC Batch: WET/50250
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177926001

SAMPLE DUPLICATE: 1442822

Parameter	Units	60177710001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.1	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: WET/50243 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177926001

METHOD BLANK: 1442600 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/18/14 14:43	

LABORATORY CONTROL SAMPLE: 1442601

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	99	85-115	

SAMPLE DUPLICATE: 1442602

Parameter	Units	60177907003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1130	1210	7	17	H1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177926001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 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 T1-004
Pace Project No.: 60177926

QC Batch: WETA/31032 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177926001

METHOD BLANK: 1443969 Matrix: Water
Associated Lab Samples: 60177926001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/19/14 08:56	

LABORATORY CONTROL SAMPLE: 1443970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.5	105	90-110	

MATRIX SPIKE SAMPLE: 1443971

Parameter	Units	60177324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	50	65.0	103	90-110	

MATRIX SPIKE SAMPLE: 1443973

Parameter	Units	60177856002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	236	100	312	76	90-110	M1

SAMPLE DUPLICATE: 1443972

Parameter	Units	60177324001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	13.9	1	25	

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

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

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.
H1	Analysis conducted outside the 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.

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

Project: BRIDGETON LF T1-004
Pace Project No.: 60177926

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177926001	**T1-004**	EPA 200.7	MPRP/28956	EPA 200.7	ICP/21817
60177926001	**T1-004**	EPA 200.7	MPRP/28939	EPA 200.7	ICP/21800
60177926001	**T1-004**	EPA 245.1	MERP/8806	EPA 245.1	MERC/8761
60177926001	**T1-004**	EPA 245.1	MERP/8808	EPA 245.1	MERC/8762
60177926001	**T1-004**	EPA 625	OEXT/46148	EPA 625	MSSV/14822
60177926001	**T1-004**	EPA 624 Low	MSV/64416		
60177926002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177926001	**T1-004**	EPA 1664A	WET/50333		
60177926001	**T1-004**	EPA 1664A	WET/50334		
60177926001	**T1-004**	SM 2540D	WET/50318		
60177926001	**T1-004**	SM 4500-H+B	WET/50250		
60177926001	**T1-004**	SM 5210B	WET/50243	SM 5210B	WET/50369
60177926001	**T1-004**	EPA 350.1	WETA/31084		
60177926001	**T1-004**	EPA 410.4	WETA/31032		

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60177926

60177926

Client Name: Barr / Republic

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

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

Optional
Proj Due Date:
Proj Name:

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☑ 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: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 9/13/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑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. 60/4-0
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. 60/30
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: PV Lot # of added preservative: 12513 12792
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 081814-3		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: 9/19/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1	Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017926
1	TI-004 2AG4U 1BP3U 3AG7S	OT	G			9/12/14	815		14	10	4	1	0	1B	P3S	3-0			X	X	X	X	X	X	X	X	X	X	X	1BP3N		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] / CBG	9.12.14	1150	Thomas M Baker	9.12.14	1150				
SITE ADDRESS: BRIDGETON LF				[signature] / PACE	9/13/14	0120	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: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 9/12/14

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

September 22, 2014

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

RE: Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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.
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CERTIFICATIONS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

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 T1-005
Pace Project No.: 60177980

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177980001	**T1-005**	Water	09/13/14 16:15	09/15/14 13:00
60177980002	**TRIP BLANK**	Water	09/13/14 16:15	09/15/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177980001	**T1-005**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177980002	**TRIP BLANK**	EPA 624 Low	EAK	28

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Sample: T1-005 **Lab ID: 60177980001** Collected: 09/13/14 16:15 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**664**	ug/L	375	1	09/18/14 10:00	09/21/14 17:13	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:13	7440-36-0	
Arsenic	**463**	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/18/14 10:00	09/21/14 17:13	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:13	7440-43-9	
Chromium	**88.4**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:13	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:13	7440-48-4	
Copper	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:13	7440-50-8	
Iron	**62700**	ug/L	250	1	09/18/14 10:00	09/21/14 17:13	7439-89-6	
Lead	**29.5**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:13	7439-92-1	
Nickel	**67.6**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/18/14 10:00	09/21/14 17:13	7782-49-2	
Silver	ND	ug/L	35.0	1	09/18/14 10:00	09/21/14 17:13	7440-22-4	
Thallium	ND	ug/L	100	1	09/18/14 10:00	09/21/14 17:13	7440-28-0	
Zinc	**2860**	ug/L	250	1	09/18/14 10:00	09/21/14 17:13	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	09/18/14 17:35	09/21/14 17:53	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:53	7440-36-0	
Arsenic, Dissolved	**317**	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:53	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/18/14 17:35	09/21/14 17:53	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:53	7440-43-9	
Chromium, Dissolved	**57.4**	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:53	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:53	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:53	7440-50-8	
Iron, Dissolved	**46000**	ug/L	250	1	09/18/14 17:35	09/21/14 17:53	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:53	7439-92-1	
Nickel, Dissolved	**51.2**	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:53	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/18/14 17:35	09/21/14 17:53	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/18/14 17:35	09/21/14 17:53	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/18/14 17:35	09/21/14 17:53	7440-28-0	
Zinc, Dissolved	**269**	ug/L	250	1	09/18/14 17:35	09/21/14 17:53	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/17/14 10:55	09/17/14 14:37	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	09/20/14 15:20	09/21/14 14:57	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/16/14 00:00	09/17/14 16:42	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/16/14 00:00	09/17/14 16:42	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**2070J**	ug/L	4000	2	09/16/14 00:00	09/17/14 16:42		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Sample: T1-005 **Lab ID: 60177980001** Collected: 09/13/14 16:15 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	87-86-5	
Phenol	**3600**	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 16:42	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	90	%	33-120	2	09/16/14 00:00	09/17/14 16:42	4165-60-0	
2-Fluorobiphenyl (S)	85	%	39-120	2	09/16/14 00:00	09/17/14 16:42	321-60-8	
Terphenyl-d14 (S)	106	%	45-120	2	09/16/14 00:00	09/17/14 16:42	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	09/16/14 00:00	09/17/14 16:42	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	09/16/14 00:00	09/17/14 16:42	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	2	09/16/14 00:00	09/17/14 16:42	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**44400**	ug/L	2000	200		09/16/14 17:26	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 17:26	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 17:26	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 17:26	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 17:26	74-83-9	
2-Butanone (MEK)	**18000**	ug/L	2000	200		09/16/14 17:26	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 17:26	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 17:26	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 17:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 17:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 17:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:26	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:26	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 17:26	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 17:26	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 17:26	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 17:26	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 17:26	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 17:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 17:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 17:26	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 17:26	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 17:26	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 17:26	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		09/16/14 17:26	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		09/16/14 17:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		09/16/14 17:26	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 17:26		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**67.3**	mg/L	5.0	1		09/18/14 08:46		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Sample: T1-005 **Lab ID: 60177980001** Collected: 09/13/14 16:15 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.5**	mg/L	5.0	1		09/18/14 11:42		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1860**	mg/L	5.0	1		09/17/14 13:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		09/16/14 16:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**6550**	mg/L	2.0	1	09/15/14 16:04	09/20/14 11:49		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**159**	mg/L	5.0	50		09/22/14 10:12	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**16900**	mg/L	2500	250		09/19/14 09:04		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Sample: TRIP BLANK **Lab ID: 60177980002** Collected: 09/13/14 16:15 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/16/14 15:53	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 15:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 15:53	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 15:53	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 15:53	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 15:53	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 15:53	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 15:53	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 15:53	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 15:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 15:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:53	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 15:53	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 15:53	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 15:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 15:53	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 15:53	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 15:53	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 15:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 15:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 15:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 15:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 15:53	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		09/16/14 15:53	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/16/14 15:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		09/16/14 15:53	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 15:53		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: MERP/8806
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177980001

METHOD BLANK: 1443802 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/14 14:22	

LABORATORY CONTROL SAMPLE: 1443803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443804 1443805

Parameter	Units	60177980001 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	109	107	69	67	70-130	2	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: MERP/8829
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177980001

METHOD BLANK: 1446381 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/21/14 14:48	

LABORATORY CONTROL SAMPLE: 1446382

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: 1446383 1446384

Parameter	Units	60177980001 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	102	102	68	68	70-130	1	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: MPRP/28956
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177980001

METHOD BLANK: 1444555
Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/21/14 17:02	
Antimony	ug/L	ND	10.0	09/21/14 17:02	
Arsenic	ug/L	ND	10.0	09/21/14 17:02	
Beryllium	ug/L	ND	1.0	09/21/14 17:02	
Cadmium	ug/L	ND	5.0	09/21/14 17:02	
Chromium	ug/L	ND	5.0	09/21/14 17:02	
Cobalt	ug/L	ND	5.0	09/21/14 17:02	
Copper	ug/L	ND	10.0	09/21/14 17:02	
Iron	ug/L	ND	50.0	09/21/14 17:02	
Lead	ug/L	ND	5.0	09/21/14 17:02	
Nickel	ug/L	ND	5.0	09/21/14 17:02	
Selenium	ug/L	ND	15.0	09/21/14 17:02	
Silver	ug/L	ND	7.0	09/21/14 17:02	
Thallium	ug/L	ND	20.0	09/21/14 17:02	
Zinc	ug/L	ND	50.0	09/21/14 17:02	

LABORATORY CONTROL SAMPLE: 1444556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9920	99	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	974	97	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	993	99	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	991	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	980	98	85-115	
Silver	ug/L	500	492	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	996	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444557 1444558

Parameter	Units	60177980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	664	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5430	5300	108	106	70-130	2	7	
Arsenic	ug/L	463	5000	5000	5780	5640	106	103	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5020	4900	100	98	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5280	5200	106	104	70-130	2	10	
Chromium	ug/L	88.4	5000	5000	5080	5040	100	99	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5010	4930	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5280	5180	106	104	70-130	2	11	
Iron	ug/L	62700	50000	50000	108000	103000	91	81	70-130	5	10	
Lead	ug/L	29.5	5000	5000	4770	4670	95	93	70-130	2	10	
Nickel	ug/L	67.6	5000	5000	4990	4900	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5470	5370	109	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2720	2680	109	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4520	91	90	70-130	1	6	
Zinc	ug/L	2860	5000	5000	7520	7260	93	88	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: MPRP/28973
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177980001

METHOD BLANK: 1445529
Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/21/14 17:46	
Antimony, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Arsenic, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Beryllium, Dissolved	ug/L	ND	1.0	09/21/14 17:46	
Cadmium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Chromium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Cobalt, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Copper, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Iron, Dissolved	ug/L	ND	50.0	09/21/14 17:46	
Lead, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Nickel, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Selenium, Dissolved	ug/L	ND	15.0	09/21/14 17:46	
Silver, Dissolved	ug/L	ND	7.0	09/21/14 17:46	
Thallium, Dissolved	ug/L	ND	20.0	09/21/14 17:46	
Zinc, Dissolved	ug/L	ND	50.0	09/21/14 17:46	

LABORATORY CONTROL SAMPLE: 1445530

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	985	98	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	996	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	995	99	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445531 1445532

Parameter	Units	60177981001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	51000	51400	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5340	5390	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	344	5000	5000	5580	5620	105	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5010	5040	100	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5190	5260	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	63.0	5000	5000	5120	5190	101	103	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5110	101	102	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5240	104	105	70-130	1	11	
Iron, Dissolved	ug/L	20000	50000	50000	68800	69000	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4890	96	98	70-130	1	10	
Nickel, Dissolved	ug/L	59.2	5000	5000	5040	5100	100	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5340	5400	107	108	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2670	106	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4740	93	95	70-130	2	6	
Zinc, Dissolved	ug/L	272	5000	5000	5140	5230	97	99	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: MSV/64416 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60177980001, 60177980002

METHOD BLANK: 1443372 Matrix: Water
Associated Lab Samples: 60177980001, 60177980002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	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 T1-005
Pace Project No.: 60177980

QC Batch: OEXT/46148
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177980001

METHOD BLANK: 1443644
Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/17/14 12:34	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/17/14 12:34	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/17/14 12:34	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/17/14 12:34	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachloroethane	ug/L	ND	5.0	09/17/14 12:34	
Naphthalene	ug/L	ND	5.0	09/17/14 12:34	
Nitrobenzene	ug/L	ND	5.0	09/17/14 12:34	
Pentachlorophenol	ug/L	ND	5.0	09/17/14 12:34	
Phenol	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Tribromophenol (S)	%	82	39-120	09/17/14 12:34	
2-Fluorobiphenyl (S)	%	74	39-120	09/17/14 12:34	
2-Fluorophenol (S)	%	40	17-120	09/17/14 12:34	
Nitrobenzene-d5 (S)	%	66	33-120	09/17/14 12:34	
Phenol-d6 (S)	%	25	11-120	09/17/14 12:34	
Terphenyl-d14 (S)	%	97	45-120	09/17/14 12:34	

LABORATORY CONTROL SAMPLE: 1443645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.5	89	46-120	
2,4,6-Trichlorophenol	ug/L	50	49.8	100	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.4	75	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	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.7	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	52.0	52	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.0	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	57.6	115	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			99	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			104	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

MATRIX SPIKE SAMPLE: 1443646

Parameter	Units	60177809001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3710	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4430	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3540J	5000	6820	66	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4350J	87	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3500	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4270	43	11-120	
Hexachloroethane	ug/L	ND	5000	3230	65	40-113	
Naphthalene	ug/L	ND	5000	3930	79	45-120	
Nitrobenzene	ug/L	ND	5000	4550	91	38-120	
Pentachlorophenol	ug/L	ND	5000	5170	103	43-135	
Phenol	ug/L	5330	5000	7540	44	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				30	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: WET/50362 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177980001

METHOD BLANK: 1444985 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/18/14 08:43	

LABORATORY CONTROL SAMPLE: 1444986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.4	99	78-114	

MATRIX SPIKE SAMPLE: 1444988

Parameter	Units	60177778001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	10.2	41.7	48.8	93	78-114	

SAMPLE DUPLICATE: 1444987

Parameter	Units	60177569002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	18.1	21.3	16	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: WET/50364 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177980001

METHOD BLANK: 1445010 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/18/14 11:41	

LABORATORY CONTROL SAMPLE: 1445011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.0	115	64-132	

MATRIX SPIKE SAMPLE: 1445013

Parameter	Units	60177778001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	15.3	66	64-132	

SAMPLE DUPLICATE: 1445012

Parameter	Units	60177569002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: WET/50353 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177980001

METHOD BLANK: 1444745 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/17/14 13:26	

SAMPLE DUPLICATE: 1444746

Parameter	Units	60177959004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	22.0	22.0	0	10	

SAMPLE DUPLICATE: 1444747

Parameter	Units	60178136001 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 T1-005
Pace Project No.: 60177980

QC Batch: WET/50309
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177980001

SAMPLE DUPLICATE: 1443930

Parameter	Units	60177714001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: WET/50276 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177980001

METHOD BLANK: 1443194 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/20/14 11:44	

LABORATORY CONTROL SAMPLE: 1443195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1443196

Parameter	Units	60177970002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	522	527	1	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177980001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 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 T1-005
Pace Project No.: 60177980

QC Batch: WETA/31032 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60177980001

METHOD BLANK: 1443969 Matrix: Water
Associated Lab Samples: 60177980001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/19/14 08:56	

LABORATORY CONTROL SAMPLE: 1443970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.5	105	90-110	

MATRIX SPIKE SAMPLE: 1443971

Parameter	Units	60177324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	50	65.0	103	90-110	

MATRIX SPIKE SAMPLE: 1443973

Parameter	Units	60177856002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	236	100	312	76	90-110	M1

SAMPLE DUPLICATE: 1443972

Parameter	Units	60177324001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	13.9	1	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-005
Pace Project No.: 60177980

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177980001	**T1-005**	EPA 200.7	MPRP/28956	EPA 200.7	ICP/21817
60177980001	**T1-005**	EPA 200.7	MPRP/28973	EPA 200.7	ICP/21815
60177980001	**T1-005**	EPA 245.1	MERP/8806	EPA 245.1	MERC/8761
60177980001	**T1-005**	EPA 245.1	MERP/8829	EPA 245.1	MERC/8788
60177980001	**T1-005**	EPA 625	OEXT/46148	EPA 625	MSSV/14822
60177980001	**T1-005**	EPA 624 Low	MSV/64416		
60177980002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177980001	**T1-005**	EPA 1664A	WET/50362		
60177980001	**T1-005**	EPA 1664A	WET/50364		
60177980001	**T1-005**	SM 2540D	WET/50353		
60177980001	**T1-005**	SM 4500-H+B	WET/50309		
60177980001	**T1-005**	SM 5210B	WET/50276	SM 5210B	WET/50403
60177980001	**T1-005**	EPA 350.1	WETA/31084		
60177980001	**T1-005**	EPA 410.4	WETA/31032		

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Sample Condition Upon Receipt

WO# : 60177980

60177980

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 ☒ trc

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: JB 9/15

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: OT	☒Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3S initial pH 6.0 added 1mL Final pH 2.0 BP3N initial pH 6.0 added 2.5mL Final pH 7.0
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 JD / Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 9/5/14	☒Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	1of 5 pgph 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: KD Date: 9/10/14

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	(2)DP2U T1-005 DP3U (3)AG3S (2)AG4U	OT	G	BP3S BP3U	9/13/14		1145		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	(3)DG4U
2	TRIP BLANK (2)DG4U TB								2	2																X			
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Requested Analysis Filtered (Y/N)

60177980

001
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	FEI	9-15-14	08:55	Dan 304	9-14-14	0855
SITE ADDRESS: BRIDGETON LF				Pace	9/15	1300
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)
2.2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 9/13/14

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

September 22, 2014

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

RE: Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 15, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

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 T1-006
Pace Project No.: 60177981

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 T1-006
Pace Project No.: 60177981

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60177981001	**T1-006**	Water	09/14/14 11:30	09/15/14 13:00
60177981002	**TRIP BLANK**	Water	09/14/14 11:30	09/15/14 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60177981001	**T1-006**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		SM 5210B	JML	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60177981002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Sample: T1-006 **Lab ID: 60177981001** Collected: 09/14/14 11:30 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3570**	ug/L	375	1	09/18/14 10:00	09/21/14 17:24	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:24	7440-36-0	
Arsenic	**510**	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:24	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/18/14 10:00	09/21/14 17:24	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:24	7440-43-9	
Chromium	**118**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:24	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:24	7440-48-4	
Copper	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:24	7440-50-8	
Iron	**324000**	ug/L	250	1	09/18/14 10:00	09/21/14 17:24	7439-89-6	
Lead	**66.4**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:24	7439-92-1	
Nickel	**71.0**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:24	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/18/14 10:00	09/21/14 17:24	7782-49-2	
Silver	ND	ug/L	35.0	1	09/18/14 10:00	09/21/14 17:24	7440-22-4	
Thallium	ND	ug/L	100	1	09/18/14 10:00	09/21/14 17:24	7440-28-0	
Zinc	**2500**	ug/L	250	1	09/18/14 10:00	09/21/14 17:24	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	09/18/14 17:35	09/21/14 17:56	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:56	7440-36-0	
Arsenic, Dissolved	**344**	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:56	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/18/14 17:35	09/21/14 17:56	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:56	7440-43-9	
Chromium, Dissolved	**63.0**	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:56	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:56	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 17:56	7440-50-8	
Iron, Dissolved	**20000**	ug/L	250	1	09/18/14 17:35	09/21/14 17:56	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:56	7439-92-1	
Nickel, Dissolved	**59.2**	ug/L	25.0	1	09/18/14 17:35	09/21/14 17:56	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/18/14 17:35	09/21/14 17:56	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/18/14 17:35	09/21/14 17:56	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/18/14 17:35	09/21/14 17:56	7440-28-0	
Zinc, Dissolved	**272**	ug/L	250	1	09/18/14 17:35	09/21/14 17:56	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/17/14 10:55	09/17/14 14:49	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	09/20/14 15:20	09/21/14 15:03	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	09/16/14 00:00	09/17/14 17:03	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	2000	2	09/16/14 00:00	09/17/14 17:03	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	4000	2	09/16/14 00:00	09/17/14 17:03		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Sample: T1-006 **Lab ID: 60177981001** Collected: 09/14/14 11:30 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	98-95-3	
Pentachlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	87-86-5	
Phenol	**2850**	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	09/16/14 00:00	09/17/14 17:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	91	%	33-120	2	09/16/14 00:00	09/17/14 17:03	4165-60-0	
2-Fluorobiphenyl (S)	89	%	39-120	2	09/16/14 00:00	09/17/14 17:03	321-60-8	
Terphenyl-d14 (S)	103	%	45-120	2	09/16/14 00:00	09/17/14 17:03	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	09/16/14 00:00	09/17/14 17:03	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	09/16/14 00:00	09/17/14 17:03	367-12-4	
2,4,6-Tribromophenol (S)	98	%	39-120	2	09/16/14 00:00	09/17/14 17:03	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**41400**	ug/L	2000	200		09/16/14 17:42	67-64-1	N2
Benzene	ND	ug/L	200	200		09/16/14 17:42	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/16/14 17:42	75-27-4	
Bromoform	ND	ug/L	200	200		09/16/14 17:42	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/16/14 17:42	74-83-9	
2-Butanone (MEK)	**15700**	ug/L	2000	200		09/16/14 17:42	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/16/14 17:42	56-23-5	
Chloroethane	ND	ug/L	200	200		09/16/14 17:42	75-00-3	
Chloroform	ND	ug/L	200	200		09/16/14 17:42	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/16/14 17:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/16/14 17:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:42	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/16/14 17:42	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/16/14 17:42	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/16/14 17:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/16/14 17:42	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/16/14 17:42	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/16/14 17:42	127-18-4	
Toluene	ND	ug/L	200	200		09/16/14 17:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/16/14 17:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/16/14 17:42	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/16/14 17:42	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/16/14 17:42	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/16/14 17:42	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	200		09/16/14 17:42	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		09/16/14 17:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		09/16/14 17:42	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/16/14 17:42		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**80.4**	mg/L	5.0	1		09/18/14 08:46		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Sample: T1-006 **Lab ID: 60177981001** Collected: 09/14/14 11:30 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.7**	mg/L	5.0	1		09/18/14 11:42		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1380**	mg/L	5.0	1		09/17/14 13:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/16/14 16:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**5420**	mg/L	2.0	1	09/15/14 16:42	09/20/14 11:53		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**142**	mg/L	5.0	50		09/22/14 10:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**15700**	mg/L	2500	250		09/19/14 09:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Sample: TRIP BLANK **Lab ID: 60177981002** Collected: 09/14/14 11:30 Received: 09/15/14 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/16/14 16:09	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/16/14 16:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/16/14 16:09	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/16/14 16:09	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/16/14 16:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/16/14 16:09	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/16/14 16:09	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/16/14 16:09	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/16/14 16:09	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/16/14 16:09	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/16/14 16:09	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 16:09	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/16/14 16:09	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/16/14 16:09	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/16/14 16:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/16/14 16:09	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/16/14 16:09	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/16/14 16:09	127-18-4	
Toluene	ND	ug/L	1.0	1		09/16/14 16:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/16/14 16:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/16/14 16:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/16/14 16:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/16/14 16:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/16/14 16:09	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	1		09/16/14 16:09	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/16/14 16:09	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		09/16/14 16:09	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/16/14 16:09		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: MERP/8806
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60177981001

METHOD BLANK: 1443802 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/17/14 14:22	

LABORATORY CONTROL SAMPLE: 1443803

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443804 1443805

Parameter	Units	60177980001 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	109	107	69	67	70-130	2	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 T1-006
Pace Project No.: 60177981

QC Batch: MERP/8829
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60177981001

METHOD BLANK: 1446381 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/21/14 14:48	

LABORATORY CONTROL SAMPLE: 1446382

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: 1446383 1446384

Parameter	Units	60177980001 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	102	102	68	68	70-130	1	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 T1-006
Pace Project No.: 60177981

QC Batch: MPRP/28956
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60177981001

METHOD BLANK: 1444555
Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/21/14 17:02	
Antimony	ug/L	ND	10.0	09/21/14 17:02	
Arsenic	ug/L	ND	10.0	09/21/14 17:02	
Beryllium	ug/L	ND	1.0	09/21/14 17:02	
Cadmium	ug/L	ND	5.0	09/21/14 17:02	
Chromium	ug/L	ND	5.0	09/21/14 17:02	
Cobalt	ug/L	ND	5.0	09/21/14 17:02	
Copper	ug/L	ND	10.0	09/21/14 17:02	
Iron	ug/L	ND	50.0	09/21/14 17:02	
Lead	ug/L	ND	5.0	09/21/14 17:02	
Nickel	ug/L	ND	5.0	09/21/14 17:02	
Selenium	ug/L	ND	15.0	09/21/14 17:02	
Silver	ug/L	ND	7.0	09/21/14 17:02	
Thallium	ug/L	ND	20.0	09/21/14 17:02	
Zinc	ug/L	ND	50.0	09/21/14 17:02	

LABORATORY CONTROL SAMPLE: 1444556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9920	99	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	974	97	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	993	99	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	991	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	980	98	85-115	
Silver	ug/L	500	492	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	996	100	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444557 1444558

Parameter	Units	60177980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	664	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5430	5300	108	106	70-130	2	7	
Arsenic	ug/L	463	5000	5000	5780	5640	106	103	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5020	4900	100	98	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5280	5200	106	104	70-130	2	10	
Chromium	ug/L	88.4	5000	5000	5080	5040	100	99	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5010	4930	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5280	5180	106	104	70-130	2	11	
Iron	ug/L	62700	50000	50000	108000	103000	91	81	70-130	5	10	
Lead	ug/L	29.5	5000	5000	4770	4670	95	93	70-130	2	10	
Nickel	ug/L	67.6	5000	5000	4990	4900	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5470	5370	109	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2720	2680	109	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4520	91	90	70-130	1	6	
Zinc	ug/L	2860	5000	5000	7520	7260	93	88	70-130	4	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: MPRP/28973
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60177981001

METHOD BLANK: 1445529
Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/21/14 17:46	
Antimony, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Arsenic, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Beryllium, Dissolved	ug/L	ND	1.0	09/21/14 17:46	
Cadmium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Chromium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Cobalt, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Copper, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Iron, Dissolved	ug/L	ND	50.0	09/21/14 17:46	
Lead, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Nickel, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Selenium, Dissolved	ug/L	ND	15.0	09/21/14 17:46	
Silver, Dissolved	ug/L	ND	7.0	09/21/14 17:46	
Thallium, Dissolved	ug/L	ND	20.0	09/21/14 17:46	
Zinc, Dissolved	ug/L	ND	50.0	09/21/14 17:46	

LABORATORY CONTROL SAMPLE: 1445530

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	985	98	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	996	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	995	99	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445531 1445532

Parameter	Units	60177981001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	51000	51400	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5340	5390	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	344	5000	5000	5580	5620	105	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5010	5040	100	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5190	5260	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	63.0	5000	5000	5120	5190	101	103	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5110	101	102	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5240	104	105	70-130	1	11	
Iron, Dissolved	ug/L	20000	50000	50000	68800	69000	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4890	96	98	70-130	1	10	
Nickel, Dissolved	ug/L	59.2	5000	5000	5040	5100	100	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5340	5400	107	108	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2670	106	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4740	93	95	70-130	2	6	
Zinc, Dissolved	ug/L	272	5000	5000	5140	5230	97	99	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: MSV/64416
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60177981001, 60177981002

METHOD BLANK: 1443372
Matrix: Water
Associated Lab Samples: 60177981001, 60177981002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/16/14 13:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/16/14 13:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/16/14 13:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/16/14 13:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/16/14 13:03	N2
Acetone	ug/L	ND	10.0	09/16/14 13:03	N2
Benzene	ug/L	ND	1.0	09/16/14 13:03	
Bromodichloromethane	ug/L	ND	1.0	09/16/14 13:03	
Bromoform	ug/L	ND	1.0	09/16/14 13:03	
Bromomethane	ug/L	ND	5.0	09/16/14 13:03	
Carbon tetrachloride	ug/L	ND	1.0	09/16/14 13:03	
Chloroethane	ug/L	ND	1.0	09/16/14 13:03	
Chloroform	ug/L	ND	1.0	09/16/14 13:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	N2
Ethylbenzene	ug/L	ND	1.0	09/16/14 13:03	
Methylene chloride	ug/L	ND	1.0	09/16/14 13:03	
Tetrachloroethene	ug/L	ND	1.0	09/16/14 13:03	
Toluene	ug/L	ND	1.0	09/16/14 13:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Trichloroethene	ug/L	ND	1.0	09/16/14 13:03	
Vinyl chloride	ug/L	ND	1.0	09/16/14 13:03	
Xylene (Total)	ug/L	ND	3.0	09/16/14 13:03	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/16/14 13:03	
4-Bromofluorobenzene (S)	%	102	80-120	09/16/14 13:03	
Toluene-d8 (S)	%	101	80-120	09/16/14 13:03	

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.8	99	67-127	N2
1,1,2-Trichloroethane	ug/L	20	20.1	101	67-124	
1,2-Dichloroethane	ug/L	20	20.9	104	70-126	
1,4-Dichlorobenzene	ug/L	20	20.6	103	74-120	
2-Butanone (MEK)	ug/L	100	85.3	85	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.8	90	59-131	N2
Acetone	ug/L	100	88.2	88	38-134	N2
Benzene	ug/L	20	20.4	102	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

LABORATORY CONTROL SAMPLE: 1443373

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.8	104	68-125	
Bromoform	ug/L	20	20.9	105	65-127	
Bromomethane	ug/L	20	23.3	117	13-157	
Carbon tetrachloride	ug/L	20	18.8	94	70-131	
Chloroethane	ug/L	20	21.0	105	47-133	
Chloroform	ug/L	20	19.2	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.1	101	68-127	N2
Ethylbenzene	ug/L	20	21.0	105	74-122	
Methylene chloride	ug/L	20	20.0	100	64-129	
Tetrachloroethene	ug/L	20	21.0	105	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.4	97	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	23.1	116	43-129	
Xylene (Total)	ug/L	60	63.3	106	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3680	92	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3850	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3720	93	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3740	93	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	4090	102	33-140	
2-Butanone (MEK)	ug/L	21100	20000	37100	80	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	16300	80	40-160	N2
Acetone	ug/L	44000	20000	61200	86	10-160	N2
Benzene	ug/L	ND	4000	3880	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3840	96	35-142	
Bromoform	ug/L	ND	4000	3630	91	45-142	
Bromomethane	ug/L	ND	4000	3330	83	10-158	
Carbon tetrachloride	ug/L	ND	4000	3820	96	70-140	
Chloroethane	ug/L	ND	4000	4070	102	19-152	
Chloroform	ug/L	ND	4000	3650	91	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3740	94	34-147	N2
Ethylbenzene	ug/L	ND	4000	4080	102	40-142	
Methylene chloride	ug/L	ND	4000	3830	94	31-144	
Tetrachloroethene	ug/L	ND	4000	4160	104	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3860	97	54-151	
Trichloroethene	ug/L	ND	4000	3980	99	71-149	
Vinyl chloride	ug/L	ND	4000	4560	114	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

MATRIX SPIKE SAMPLE: 1443374

Parameter	Units	60177710001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12100	101	37-144	N2
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				100	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 T1-006
Pace Project No.: 60177981

QC Batch: OEXT/46148
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60177981001

METHOD BLANK: 1443644
Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/17/14 12:34	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/17/14 12:34	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/17/14 12:34	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/17/14 12:34	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/17/14 12:34	
Hexachloroethane	ug/L	ND	5.0	09/17/14 12:34	
Naphthalene	ug/L	ND	5.0	09/17/14 12:34	
Nitrobenzene	ug/L	ND	5.0	09/17/14 12:34	
Pentachlorophenol	ug/L	ND	5.0	09/17/14 12:34	
Phenol	ug/L	ND	5.0	09/17/14 12:34	
2,4,6-Tribromophenol (S)	%	82	39-120	09/17/14 12:34	
2-Fluorobiphenyl (S)	%	74	39-120	09/17/14 12:34	
2-Fluorophenol (S)	%	40	17-120	09/17/14 12:34	
Nitrobenzene-d5 (S)	%	66	33-120	09/17/14 12:34	
Phenol-d6 (S)	%	25	11-120	09/17/14 12:34	
Terphenyl-d14 (S)	%	97	45-120	09/17/14 12:34	

LABORATORY CONTROL SAMPLE: 1443645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	44.5	89	46-120	
2,4,6-Trichlorophenol	ug/L	50	49.8	100	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.4	75	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	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	41.7	83	44-116	
Hexachlorocyclopentadiene	ug/L	100	52.0	52	24-120	
Hexachloroethane	ug/L	50	40.3	81	43-113	
Naphthalene	ug/L	50	44.0	88	48-120	
Nitrobenzene	ug/L	50	44.4	89	48-120	
Pentachlorophenol	ug/L	50	57.6	115	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			99	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			89	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			104	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

MATRIX SPIKE SAMPLE: 1443646

Parameter	Units	60177809001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3710	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4430	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3630	73	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3540J	5000	6820	66	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4350J	87	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3500	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4270	43	11-120	
Hexachloroethane	ug/L	ND	5000	3230	65	40-113	
Naphthalene	ug/L	ND	5000	3930	79	45-120	
Nitrobenzene	ug/L	ND	5000	4550	91	38-120	
Pentachlorophenol	ug/L	ND	5000	5170	103	43-135	
Phenol	ug/L	5330	5000	7540	44	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				41	17-120	
Nitrobenzene-d5 (S)	%				95	33-120	
Phenol-d6 (S)	%				30	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: WET/50362
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60177981001

METHOD BLANK: 1444985 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/18/14 08:43	

LABORATORY CONTROL SAMPLE: 1444986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.4	99	78-114	

MATRIX SPIKE SAMPLE: 1444988

Parameter	Units	60177778001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	10.2	41.7	48.8	93	78-114	

SAMPLE DUPLICATE: 1444987

Parameter	Units	60177569002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	18.1	21.3	16	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: WET/50364 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60177981001

METHOD BLANK: 1445010 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/18/14 11:41	

LABORATORY CONTROL SAMPLE: 1445011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	23.0	115	64-132	

MATRIX SPIKE SAMPLE: 1445013

Parameter	Units	60177778001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	15.3	66	64-132	

SAMPLE DUPLICATE: 1445012

Parameter	Units	60177569002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.7J		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 T1-006
Pace Project No.: 60177981

QC Batch: WET/50353 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60177981001

METHOD BLANK: 1444745 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/17/14 13:26	

SAMPLE DUPLICATE: 1444746

Parameter	Units	60177959004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	22.0	22.0	0	10	

SAMPLE DUPLICATE: 1444747

Parameter	Units	60178136001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		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 T1-006
Pace Project No.: 60177981

QC Batch: WET/50309
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60177981001

SAMPLE DUPLICATE: 1443930

Parameter	Units	60177714001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	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 LF T1-006
Pace Project No.: 60177981

QC Batch: WET/50276 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60177981001

METHOD BLANK: 1443194 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/20/14 11:44	

LABORATORY CONTROL SAMPLE: 1443195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1443196

Parameter	Units	60177970002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	522	527	1	17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60177981001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

QC Batch: WETA/31032
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60177981001

METHOD BLANK: 1443969 Matrix: Water
Associated Lab Samples: 60177981001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/19/14 08:56	

LABORATORY CONTROL SAMPLE: 1443970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.5	105	90-110	

MATRIX SPIKE SAMPLE: 1443971

Parameter	Units	60177324001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	50	65.0	103	90-110	

MATRIX SPIKE SAMPLE: 1443973

Parameter	Units	60177856002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	236	100	312	76	90-110	M1

SAMPLE DUPLICATE: 1443972

Parameter	Units	60177324001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	13.8	13.9	1	25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

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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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-006
Pace Project No.: 60177981

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60177981001	**T1-006**	EPA 200.7	MPRP/28956	EPA 200.7	ICP/21817
60177981001	**T1-006**	EPA 200.7	MPRP/28973	EPA 200.7	ICP/21815
60177981001	**T1-006**	EPA 245.1	MERP/8806	EPA 245.1	MERC/8761
60177981001	**T1-006**	EPA 245.1	MERP/8829	EPA 245.1	MERC/8788
60177981001	**T1-006**	EPA 625	OEXT/46148	EPA 625	MSSV/14822
60177981001	**T1-006**	EPA 624 Low	MSV/64416		
60177981002	**TRIP BLANK**	EPA 624 Low	MSV/64416		
60177981001	**T1-006**	EPA 1664A	WET/50362		
60177981001	**T1-006**	EPA 1664A	WET/50364		
60177981001	**T1-006**	SM 2540D	WET/50353		
60177981001	**T1-006**	SM 4500-H+B	WET/50309		
60177981001	**T1-006**	SM 5210B	WET/50276	SM 5210B	WET/50403
60177981001	**T1-006**	EPA 350.1	WETA/31084		
60177981001	**T1-006**	EPA 410.4	WETA/31032		

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Sample Condition Upon Receipt

WO# : 60177981

60177981

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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: CW 9-15-14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6.
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~~ CW 9/15 OL		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N 2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14. BP3S 4.6
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed CW / Lot # of added preservative 12513-23-1, 12787-14-8
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 081814-3EAP		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	2 of 5 T1-006 Samples
		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: 9/16/14

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	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)	6017798/
1	T1-006 5(VG9U) 2(AG4U)	DT	G			9/14/14	1130		14	10	4	1	0	3(AG3S)					X	X	X	X	X	X	X	X	X	X	X	BP3U	BP3N BP3S (BP2U)
2	TRIP BLANK								2	2																X					2(VG9U)
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] FOT	9-15-14	08:55	[signature] 306	9-15-14	0855	—	~~4~~ CW 9-15		
SITE ADDRESS: BRIDGETON LF				[signature] White PACE	9/15/14	13:00	1.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 9/14/14

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

September 23, 2014

DEREK BOUCHARD
REPUBLIC SERVICES
13570 ST CHARLES ROCK RD
Bridgeton, MO 63044

RE: Project: BRIDGETON 4337
Pace Project No.: 60178023

Dear DEREK BOUCHARD:
Enclosed are the analytical results for sample(s) received by the laboratory on September 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: KEVIN KAMP, CEC

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CERTIFICATIONS

Project: BRIDGETON 4337
Pace Project No.: 60178023

New Orleans Certification IDs
California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Oklahoma Department of Environmental Quality: 2010-139
Oregon Environmental Laboratory Accreditation: LA200001
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Washington Department of Ecology: C2078

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 4337
Pace Project No.: 60178023

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178023001	**SLUDGE TRUCK ONE**	Solid	09/15/14 14:00	09/16/14 01:55
60178023002	**SLUDGE TRUCK ONE**	Solid	09/15/14 14:00	09/16/14 01:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON 4337
Pace Project No.: 60178023

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60178023001	**SLUDGE TRUCK ONE**	EPA 8081A	SPP1	9	PASI-N
		EPA 8151	SPP1	3	PASI-N
		EPA 6010	NDJ	7	PASI-K
		EPA 7470	ZBM	1	PASI-K
		EPA 8270	JMT	18	PASI-K
		ASTM D2974	JML	1	PASI-K
		SM 2540G	JML	1	PASI-K
		SW-846 7.3.4.2	LJL	1	PASI-N
		EPA 9045	JML	1	PASI-K
		EPA 9095	AJM	1	PASI-K
		ASTM D92	JML	1	PASI-K
		EPA 300.0	OL	1	PASI-K
		SW-846 7.3.3.2	SMS2	1	PASI-N
		EPA 9023	JRP	1	PASI-N
		EPA 9065	SMS2	1	PASI-N
60178023002	**SLUDGE TRUCK ONE**	EPA 8082	JDH	8	PASI-K
		EPA 8260	JKL	13	PASI-K

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178023

Sample: SLUDGE TRUCK ONE **Lab ID: 60178023001** Collected: 09/15/14 14:00 Received: 09/16/14 01:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 OCC Pesticide, TCLP SPE	Analytical Method: EPA 8081A Preparation Method: EPA 3535 Leachate Method/Date: EPA 1311; 09/18/14 16:00								
gamma-BHC (Lindane)	ND	mg/L	0.00050	.4	1	09/19/14 13:20	09/22/14 11:03	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0050	.03	1	09/19/14 13:20	09/22/14 11:03	57-74-9	
Endrin	ND	mg/L	0.0010	.02	1	09/19/14 13:20	09/22/14 11:03	72-20-8	
Heptachlor	ND	mg/L	0.00050	.008	1	09/19/14 13:20	09/22/14 11:03	76-44-8	
Heptachlor epoxide	ND	mg/L	0.00050	.008	1	09/19/14 13:20	09/22/14 11:03	1024-57-3	
Methoxychlor	ND	mg/L	0.0050	10	1	09/19/14 13:20	09/22/14 11:03	72-43-5	
Toxaphene	ND	mg/L	0.020	.5	1	09/19/14 13:20	09/22/14 11:03	8001-35-2	
Surrogates									
Tetrachloro-m-xylene (S)	44	%.	10-119		1	09/19/14 13:20	09/22/14 11:03	877-09-8	
Tetrachloro-m-xylene (S)	51	%.	10-119		1	09/19/14 13:20	09/22/14 11:03	877-09-8	
Decachlorobiphenyl (S)	76	%.	14-126		1	09/19/14 13:20	09/22/14 11:03	2051-24-3	
Decachlorobiphenyl (S)	94	%.	14-126		1	09/19/14 13:20	09/22/14 11:03	2051-24-3	
8151A Cl Herbicides TCLP	Analytical Method: EPA 8151 Preparation Method: EPA 3535A Leachate Method/Date: EPA 1311; 09/18/14 16:00								
2,4-D	ND	mg/L	0.020	10	1	09/19/14 15:17	09/22/14 12:24	94-75-7	
2,4,5-TP (Silvex)	ND	mg/L	0.020	1	1	09/19/14 15:17	09/22/14 12:24	93-72-1	
Surrogates									
2,4-DCAA (S)	80	%.	10-166		1	09/19/14 15:17	09/22/14 12:24	19719-28-9	
2,4-DCAA (S)	81	%.	10-166		1	09/19/14 15:17	09/22/14 12:24	19719-28-9	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Leachate Method/Date: EPA 1311; 09/16/14 00:00								
Arsenic	ND	mg/L	0.50	5	1	09/17/14 15:33	09/18/14 10:16	7440-38-2	
Barium	ND	mg/L	2.5	100	1	09/17/14 15:33	09/18/14 10:16	7440-39-3	
Cadmium	ND	mg/L	0.050	1	1	09/17/14 15:33	09/18/14 10:16	7440-43-9	
Chromium	ND	mg/L	0.10	5	1	09/17/14 15:33	09/18/14 10:16	7440-47-3	
Lead	ND	mg/L	0.50	5	1	09/17/14 15:33	09/18/14 10:16	7439-92-1	
Selenium	ND	mg/L	0.50	1	1	09/17/14 15:33	09/18/14 10:16	7782-49-2	
Silver	ND	mg/L	0.10	5	1	09/17/14 15:33	09/18/14 10:16	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470 Leachate Method/Date: EPA 1311; 09/16/14 00:00								
Mercury	ND	mg/L	0.0020	.2	1	09/17/14 15:15	09/18/14 11:10	7439-97-6	
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 09/17/14 10:47								
1,4-Dichlorobenzene	ND	ug/L	100	7500	1	09/18/14 00:00	09/19/14 10:38	106-46-7	
2,4-Dinitrotoluene	ND	ug/L	100	130	1	09/18/14 00:00	09/19/14 10:38	121-14-2	
Hexachloro-1,3-butadiene	ND	ug/L	100	500	1	09/18/14 00:00	09/19/14 10:38	87-68-3	
Hexachlorobenzene	ND	ug/L	100	130	1	09/18/14 00:00	09/19/14 10:38	118-74-1	
Hexachloroethane	ND	ug/L	100	3000	1	09/18/14 00:00	09/19/14 10:38	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	100	200000	1	09/18/14 00:00	09/19/14 10:38	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	200	200000	1	09/18/14 00:00	09/19/14 10:38		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178023

Sample: SLUDGE TRUCK ONE **Lab ID: 60178023001** Collected: 09/15/14 14:00 Received: 09/16/14 01:55 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 09/17/14 10:47								
Nitrobenzene	ND	ug/L	100	2000	1	09/18/14 00:00	09/19/14 10:38	98-95-3	
Pentachlorophenol	ND	ug/L	500	100000	1	09/18/14 00:00	09/19/14 10:38	87-86-5	
Pyridine	ND	ug/L	100	5000	1	09/18/14 00:00	09/19/14 10:38	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	500	400000	1	09/18/14 00:00	09/19/14 10:38	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	100	2000	1	09/18/14 00:00	09/19/14 10:38	88-06-2	
Surrogates									
Nitrobenzene-d5 (S)	91	%	44-120		1	09/18/14 00:00	09/19/14 10:38	4165-60-0	
2-Fluorobiphenyl (S)	88	%	49-120		1	09/18/14 00:00	09/19/14 10:38	321-60-8	
Terphenyl-d14 (S)	100	%	52-122		1	09/18/14 00:00	09/19/14 10:38	1718-51-0	
Phenol-d6 (S)	68	%	36-120		1	09/18/14 00:00	09/19/14 10:38	13127-88-3	
2-Fluorophenol (S)	62	%	37-120		1	09/18/14 00:00	09/19/14 10:38	367-12-4	
2,4,6-Tribromophenol (S)	87	%	36-128		1	09/18/14 00:00	09/19/14 10:38	118-79-6	
Percent Moisture	Analytical Method: ASTM D2974								
Percent Moisture	**77.0**	%	0.50		1		09/16/14 13:10		
2540G Total Percent Solids	Analytical Method: SM 2540G								
Total Solids	**23.0**	%	0.10		1		09/16/14 13:10		
Reactive Sulfide	Analytical Method: SW-846 7.3.4.2 Preparation Method: SW-846 7.3.4.2								
Sulfide, Reactive	ND	mg/kg	50.0		1	09/18/14 10:24	09/18/14 11:03		
9045 pH Soil	Analytical Method: EPA 9045								
pH at 25 Degrees C	**7.7**	Std. Units	0.10		1		09/19/14 15:20		H1
9095 Paint Filter Liquid Test	Analytical Method: EPA 9095								
Free Liquids	**negative**				1		09/18/14 09:30		
Flashpoint, Open Cup	Analytical Method: ASTM D92								
Flashpoint	**>210**	deg F			1		09/19/14 12:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0								
Sulfate	**1230**	mg/kg	436		10	09/17/14 12:00	09/17/14 13:36	14808-79-8	
733C S Reactive Cyanide	Analytical Method: SW-846 7.3.3.2 Preparation Method: SW-846 7.3.3.2								
Cyanide, Reactive	ND	mg/kg	25.0		1	09/18/14 10:25	09/18/14 15:42		
9023 Ext. Organic Halides EOX	Analytical Method: EPA 9023 Preparation Method: EPA 9023								
Extractable Organic Halogens	ND	mg/kg	48.8		1	09/19/14 09:00	09/19/14 11:32		
9065 Phenolics, Total	Analytical Method: EPA 9065 Preparation Method: EPA 9065								
Phenolics, Total Recoverable	ND	mg/kg	0.14		1	09/18/14 16:22	09/19/14 08:23		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178023

Sample: SLUDGE TRUCK ONE **Lab ID: 60178023002** Collected: 09/15/14 14:00 Received: 09/16/14 01:55 Matrix: Solid

Results reported on a "wet-weight" basis

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB SW	Analytical Method: EPA 8082 Preparation Method: EPA 3546								
PCB-1016 (Aroclor 1016)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/kg	345		1	09/16/14 00:00	09/18/14 20:10	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/kg	172		1	09/16/14 00:00	09/18/14 20:10	11096-82-5	
Surrogates									
Decachlorobiphenyl (S)	81	%	38-119		1	09/16/14 00:00	09/18/14 20:10	2051-24-3	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 09/16/14 00:00								
Benzene	ND	ug/L	50.0	500	1		09/18/14 14:31	71-43-2	
2-Butanone (MEK)	ND	ug/L	1000	200000	1		09/18/14 14:31	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	500	1		09/18/14 14:31	56-23-5	
Chlorobenzene	ND	ug/L	50.0	100000	1		09/18/14 14:31	108-90-7	
Chloroform	ND	ug/L	200	6000	1		09/18/14 14:31	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	500	1		09/18/14 14:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	700	1		09/18/14 14:31	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	700	1		09/18/14 14:31	127-18-4	
Trichloroethene	ND	ug/L	50.0	500	1		09/18/14 14:31	79-01-6	
Vinyl chloride	ND	ug/L	20.0	200	1		09/18/14 14:31	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	99	%	80-120		1		09/18/14 14:31	17060-07-0	
Toluene-d8 (S)	110	%	80-120		1		09/18/14 14:31	2037-26-5	
4-Bromofluorobenzene (S)	97	%	80-120		1		09/18/14 14:31	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: MERP/8812
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 60178023001

METHOD BLANK: 1444520 Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	09/18/14 11:05	

LABORATORY CONTROL SAMPLE: 1444521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.005	0.0051	102	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444522 1444523

Parameter	Units	60178023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.015	.015	0.014	0.013	91	89	75-125	2	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: MPRP/28953
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 60178023001

METHOD BLANK: 1444457
Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	09/18/14 10:13	
Barium	mg/L	ND	2.5	09/18/14 10:13	
Cadmium	mg/L	ND	0.050	09/18/14 10:13	
Chromium	mg/L	ND	0.10	09/18/14 10:13	
Lead	mg/L	ND	0.50	09/18/14 10:13	
Selenium	mg/L	ND	0.50	09/18/14 10:13	
Silver	mg/L	ND	0.10	09/18/14 10:13	

LABORATORY CONTROL SAMPLE: 1444458

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.98	98	80-120	
Barium	mg/L	1	1.0	105	80-120	
Cadmium	mg/L	1	0.99	99	80-120	
Chromium	mg/L	1	1.1	106	80-120	
Lead	mg/L	1	0.92	92	80-120	
Selenium	mg/L	1	0.90	90	80-120	
Silver	mg/L	.5	0.45	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444459 1444460

Parameter	Units	60178023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	10.0	10	99	99	75-125	1	20	
Barium	mg/L	ND	10	10	10.4	10.4	104	104	75-125	0	20	
Cadmium	mg/L	ND	10	10	10	9.9	100	99	75-125	1	20	
Chromium	mg/L	ND	10	10	10.3	10.2	103	102	75-125	1	20	
Lead	mg/L	ND	10	10	8.8	8.8	88	88	75-125	1	20	
Selenium	mg/L	ND	10	10	9.1	9.1	91	90	75-125	0	20	
Silver	mg/L	ND	5	5	4.5	4.5	90	90	75-125	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: MSV/64482
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60178023002

METHOD BLANK: 1444865
Matrix: Water
Associated Lab Samples: 60178023002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/18/14 14:15	
1,2-Dichloroethane	ug/L	ND	50.0	09/18/14 14:15	
2-Butanone (MEK)	ug/L	ND	1000	09/18/14 14:15	
Benzene	ug/L	ND	50.0	09/18/14 14:15	
Carbon tetrachloride	ug/L	ND	50.0	09/18/14 14:15	
Chlorobenzene	ug/L	ND	50.0	09/18/14 14:15	
Chloroform	ug/L	ND	200	09/18/14 14:15	
Tetrachloroethene	ug/L	ND	50.0	09/18/14 14:15	
Trichloroethene	ug/L	ND	50.0	09/18/14 14:15	
Vinyl chloride	ug/L	ND	20.0	09/18/14 14:15	
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/18/14 14:15	
4-Bromofluorobenzene (S)	%	97	80-120	09/18/14 14:15	
Toluene-d8 (S)	%	109	80-120	09/18/14 14:15	

LABORATORY CONTROL SAMPLE: 1444866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	998	100	78-126	
1,2-Dichloroethane	ug/L	1000	971	97	77-123	
2-Butanone (MEK)	ug/L	5000	4360	87	52-145	
Benzene	ug/L	1000	1000	100	80-120	
Carbon tetrachloride	ug/L	1000	1090	109	78-128	
Chlorobenzene	ug/L	1000	953	95	80-120	
Chloroform	ug/L	1000	1090	109	79-120	
Tetrachloroethene	ug/L	1000	1040	104	80-121	
Trichloroethene	ug/L	1000	997	100	80-120	
Vinyl chloride	ug/L	1000	1060	106	59-120	
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			109	80-120	

MATRIX SPIKE SAMPLE: 1444867

Parameter	Units	60178023002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	815	81	60-144	
1,2-Dichloroethane	ug/L	ND	1000	964	96	49-148	
2-Butanone (MEK)	ug/L	ND	5000	4650	91	36-145	
Benzene	ug/L	ND	1000	942	94	37-157	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

MATRIX SPIKE SAMPLE: 1444867

Parameter	Units	60178023002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	1000	991	99	68-142	
Chlorobenzene	ug/L	ND	1000	923	92	66-133	
Chloroform	ug/L	ND	1000	897	90	66-127	
Tetrachloroethene	ug/L	ND	1000	929	93	69-133	
Trichloroethene	ug/L	ND	1000	945	94	61-135	
Vinyl chloride	ug/L	ND	1000	627	63	44-128	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				110	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: OEXT/2808
QC Batch Method: EPA 3535
Analysis Method: EPA 8081A
Analysis Description: 8081A GCS TCLP Pesticides
Associated Lab Samples: 60178023001

METHOD BLANK: 52310 Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.0050	09/22/14 10:25	
Endrin	mg/L	ND	0.0010	09/22/14 10:25	
gamma-BHC (Lindane)	mg/L	ND	0.00050	09/22/14 10:25	
Heptachlor	mg/L	ND	0.00050	09/22/14 10:25	
Heptachlor epoxide	mg/L	ND	0.00050	09/22/14 10:25	
Methoxychlor	mg/L	ND	0.0050	09/22/14 10:25	
Toxaphene	mg/L	ND	0.020	09/22/14 10:25	
Decachlorobiphenyl (S)	%.	67	14-126	09/22/14 10:25	
Decachlorobiphenyl (S)	%.	71	14-126	09/22/14 10:25	
Tetrachloro-m-xylene (S)	%.	51	10-119	09/22/14 10:25	
Tetrachloro-m-xylene (S)	%.	56	10-119	09/22/14 10:25	

METHOD BLANK: 52357 Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.0050	09/22/14 10:51	
Endrin	mg/L	ND	0.0010	09/22/14 10:51	
gamma-BHC (Lindane)	mg/L	ND	0.00050	09/22/14 10:51	
Heptachlor	mg/L	ND	0.00050	09/22/14 10:51	
Heptachlor epoxide	mg/L	ND	0.00050	09/22/14 10:51	
Methoxychlor	mg/L	ND	0.0050	09/22/14 10:51	
Toxaphene	mg/L	ND	0.020	09/22/14 10:51	
Decachlorobiphenyl (S)	%.	68	14-126	09/22/14 10:51	
Decachlorobiphenyl (S)	%.	77	14-126	09/22/14 10:51	
Tetrachloro-m-xylene (S)	%.	37	10-119	09/22/14 10:51	
Tetrachloro-m-xylene (S)	%.	40	10-119	09/22/14 10:51	

LABORATORY CONTROL SAMPLE: 52836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin	mg/L	.005	0.0035	71	20-153	
gamma-BHC (Lindane)	mg/L	.005	0.0034	68	28-128	
Heptachlor	mg/L	.005	0.0018	36	10-115	
Heptachlor epoxide	mg/L	.005	0.0033	65	30-119	
Methoxychlor	mg/L	.005	.0038J	76	21-150	
Decachlorobiphenyl (S)	%.			75	14-126	
Decachlorobiphenyl (S)	%.			85	14-126	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

LABORATORY CONTROL SAMPLE: 52836

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Tetrachloro-m-xylene (S)	%.			51	10-119	
Tetrachloro-m-xylene (S)	%.			49	10-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52837 52838

Parameter	Units	209514001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endrin	mg/L	ND	.005	.005	0.0034	0.0036	68	72	22-160	7	20	
gamma-BHC (Lindane)	mg/L	ND	.005	.005	0.0027	0.0033	54	66	17-149	20	20	
Heptachlor	mg/L	ND	.005	.005	0.0025	0.0031	48	61	10-134	22	20	R1
Heptachlor epoxide	mg/L	ND	.005	.005	0.0030	0.0033	59	66	13-147	11	20	
Methoxychlor	mg/L	ND	.005	.005	.0039J	.0038J	77	75	17-166		20	
Decachlorobiphenyl (S)	%.						86	89	14-126			
Decachlorobiphenyl (S)	%.						69	71	14-126			
Tetrachloro-m-xylene (S)	%.						43	54	10-119			
Tetrachloro-m-xylene (S)	%.						46	62	10-119			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: OEXT/46151
QC Batch Method: EPA 3546
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Associated Lab Samples: 60178023002

METHOD BLANK: 1443708 Matrix: Solid
Associated Lab Samples: 60178023002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	ND	32.7	09/18/14 15:51	
PCB-1221 (Aroclor 1221)	ug/kg	ND	65.5	09/18/14 15:51	
PCB-1232 (Aroclor 1232)	ug/kg	ND	32.7	09/18/14 15:51	
PCB-1242 (Aroclor 1242)	ug/kg	ND	32.7	09/18/14 15:51	
PCB-1248 (Aroclor 1248)	ug/kg	ND	32.7	09/18/14 15:51	
PCB-1254 (Aroclor 1254)	ug/kg	ND	32.7	09/18/14 15:51	
PCB-1260 (Aroclor 1260)	ug/kg	ND	32.7	09/18/14 15:51	
Decachlorobiphenyl (S)	%	95	38-119	09/18/14 15:51	

LABORATORY CONTROL SAMPLE: 1443709

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	165	174	105	71-122	
PCB-1260 (Aroclor 1260)	ug/kg	165	170	103	75-117	
Decachlorobiphenyl (S)	%			94	38-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1443710 1443711

Parameter	Units	60178023002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	ND	935	876	914	844	98	96	20-160	8	35	
PCB-1260 (Aroclor 1260)	ug/kg	ND	935	876	814	741	87	85	17-160	9	34	
Decachlorobiphenyl (S)	%						77	75	38-119			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: OEXT/2809
QC Batch Method: EPA 3535A
Associated Lab Samples: 60178023001

Analysis Method: EPA 8151
Analysis Description: 8151 GCS TCLP Herbicides

METHOD BLANK: 52310 Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.020	09/22/14 11:36	
2,4-D	mg/L	ND	0.020	09/22/14 11:36	
2,4-DCAA (S)	%.	75	10-166	09/22/14 11:36	
2,4-DCAA (S)	%.	81	10-166	09/22/14 11:36	

METHOD BLANK: 52357 Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.020	09/22/14 12:08	
2,4-D	mg/L	ND	0.020	09/22/14 12:08	
2,4-DCAA (S)	%.	70	10-166	09/22/14 12:08	
2,4-DCAA (S)	%.	75	10-166	09/22/14 12:08	

LABORATORY CONTROL SAMPLE: 52839

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.04	0.027	66	22-158	
2,4-D	mg/L	.04	0.027	66	10-151	
2,4-DCAA (S)	%.			73	10-166	
2,4-DCAA (S)	%.			78	10-166	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52840 52841

Parameter	Units	209514003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	.04	.04	0.027	0.027	68	67	16-164	2	20	
2,4-D	mg/L	ND	.04	.04	0.028	0.027	69	68	10-160	.9	20	
2,4-DCAA (S)	%.						85	81	10-166			
2,4-DCAA (S)	%.						77	74	10-166			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: OEXT/46186
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 TCLP MSSV
Associated Lab Samples: 60178023001

METHOD BLANK: 1444933
Matrix: Water
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	09/19/14 09:57	
2,4,5-Trichlorophenol	ug/L	ND	500	09/19/14 09:57	
2,4,6-Trichlorophenol	ug/L	ND	100	09/19/14 09:57	
2,4-Dinitrotoluene	ug/L	ND	100	09/19/14 09:57	
2-Methylphenol(o-Cresol)	ug/L	ND	100	09/19/14 09:57	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	09/19/14 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	100	09/19/14 09:57	
Hexachlorobenzene	ug/L	ND	100	09/19/14 09:57	
Hexachloroethane	ug/L	ND	100	09/19/14 09:57	
Nitrobenzene	ug/L	ND	100	09/19/14 09:57	
Pentachlorophenol	ug/L	ND	500	09/19/14 09:57	
Pyridine	ug/L	ND	100	09/19/14 09:57	
2,4,6-Tribromophenol (S)	%	82	36-128	09/19/14 09:57	
2-Fluorobiphenyl (S)	%	87	49-120	09/19/14 09:57	
2-Fluorophenol (S)	%	55	37-120	09/19/14 09:57	
Nitrobenzene-d5 (S)	%	80	44-120	09/19/14 09:57	
Phenol-d6 (S)	%	55	36-120	09/19/14 09:57	
Terphenyl-d14 (S)	%	98	52-122	09/19/14 09:57	

LABORATORY CONTROL SAMPLE: 1444934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	373	75	47-120	
2,4,5-Trichlorophenol	ug/L	500	479J	96	51-124	
2,4,6-Trichlorophenol	ug/L	500	451	90	46-120	
2,4-Dinitrotoluene	ug/L	500	398	80	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	391	78	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	789	79	41-120	
Hexachloro-1,3-butadiene	ug/L	500	364	73	49-120	
Hexachlorobenzene	ug/L	500	413	83	50-120	
Hexachloroethane	ug/L	500	378	76	38-120	
Nitrobenzene	ug/L	500	418	84	49-120	
Pentachlorophenol	ug/L	500	435J	87	35-125	
Pyridine	ug/L	500	258	52	10-120	
2,4,6-Tribromophenol (S)	%			80	36-128	
2-Fluorobiphenyl (S)	%			85	49-120	
2-Fluorophenol (S)	%			67	37-120	
Nitrobenzene-d5 (S)	%			85	44-120	
Phenol-d6 (S)	%			69	36-120	
Terphenyl-d14 (S)	%			99	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

MATRIX SPIKE SAMPLE: 1444935

Parameter	Units	60178023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	375	75	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	553	111	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	507	101	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	411	82	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	414	83	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	797	80	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	387	77	49-120	
Hexachlorobenzene	ug/L	ND	500	405	81	53-120	
Hexachloroethane	ug/L	ND	500	388	78	38-120	
Nitrobenzene	ug/L	ND	500	423	85	51-120	
Pentachlorophenol	ug/L	ND	500	455J	91	34-131	
Pyridine	ug/L	ND	500	218	44	10-120	
2,4,6-Tribromophenol (S)	%				83	36-128	
2-Fluorobiphenyl (S)	%				85	49-120	
2-Fluorophenol (S)	%				56	37-120	
Nitrobenzene-d5 (S)	%				88	44-120	
Phenol-d6 (S)	%				69	36-120	
Terphenyl-d14 (S)	%				101	52-122	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: PMST/10025
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60178023001

SAMPLE DUPLICATE: 1443726

Parameter	Units	60177693001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	99.4	76.5	26	20	D6

SAMPLE DUPLICATE: 1443727

Parameter	Units	60177841001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	27.1	27.3	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WET/50305 Analysis Method: SM 2540G
QC Batch Method: SM 2540G Analysis Description: 2540G Total Solids
Associated Lab Samples: 60178023001

METHOD BLANK: 1443699 Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	%	ND	0.10	09/16/14 13:10	

SAMPLE DUPLICATE: 1443700

Parameter	Units	60178023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	23.0	23.5	2	8	

SAMPLE DUPLICATE: 1443701

Parameter	Units	60177841001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	72.9	72.7	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WET/3518
QC Batch Method: SW-846 7.3.4.2
Analysis Method: SW-846 7.3.4.2
Analysis Description: Reactive Sulfide
Associated Lab Samples: 60178023001

METHOD BLANK: 51957 Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Reactive	mg/kg	ND	50.0	09/18/14 11:03	

LABORATORY CONTROL SAMPLE: 51958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	500	441	88	1-110	

MATRIX SPIKE SAMPLE: 51960

Parameter	Units	209382001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	ND	500	441	84	1-110	

SAMPLE DUPLICATE: 51959

Parameter	Units	209382001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Reactive	mg/kg	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WET/50395
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Associated Lab Samples: 60178023001

SAMPLE DUPLICATE: 1446201

Parameter	Units	60177655001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.1	8.1	0	3	H1

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WET/50348
QC Batch Method: EPA 9095
Analysis Method: EPA 9095
Analysis Description: 9095 PAINT FILTER LIQUID TEST
Associated Lab Samples: 60178023001

SAMPLE DUPLICATE: 1444733

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
Free Liquids		negative	negative			

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WETA/31039
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60178023001

METHOD BLANK: 1444341
Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	99.4	09/17/14 13:07	

LABORATORY CONTROL SAMPLE: 1444342

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	499	480	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444343 1444344

Parameter	Units	60178023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	1230	2190	2170	3190	3190	90	90	80-120	0	15	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WETA/3051
QC Batch Method: SW-846 7.3.3.2
Analysis Method: SW-846 7.3.3.2
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 60178023001

METHOD BLANK: 51970 Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/kg	ND	25.0	09/18/14 15:42	

LABORATORY CONTROL SAMPLE: 51971

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	100	ND	9	1-110	

MATRIX SPIKE SAMPLE: 51973

Parameter	Units	209382001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	ND	100	ND	1	1-110	

SAMPLE DUPLICATE: 51972

Parameter	Units	209382001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide, Reactive	mg/kg	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WETA/3075
QC Batch Method: EPA 9023
Analysis Method: EPA 9023
Analysis Description: 9023 Extractable Organic Halides EOX
Associated Lab Samples: 60178023001

METHOD BLANK: 52317 Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Extractable Organic Halogens	mg/kg	ND	47.8	09/19/14 11:02	

LABORATORY CONTROL SAMPLE: 52318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Extractable Organic Halogens	mg/kg	966	822	85	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52319 52320

Parameter	Units	60178133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Extractable Organic Halogens	mg/kg	ND	4620	4530	4390	4000	93	86	75-125	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178023

QC Batch: WETA/3068
QC Batch Method: EPA 9065
Analysis Method: EPA 9065
Analysis Description: 9065 Phenolics
Associated Lab Samples: 60178023001

METHOD BLANK: 52172 Matrix: Solid
Associated Lab Samples: 60178023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/kg	ND	0.15	09/19/14 08:23	

LABORATORY CONTROL SAMPLE: 52173

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/kg	2.5	3.0	120	80-120	

MATRIX SPIKE SAMPLE: 52175

Parameter	Units	60178023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/kg	ND	2.3	ND	1	75-125	M1

SAMPLE DUPLICATE: 52174

Parameter	Units	60178023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phenolics, Total Recoverable	mg/kg	ND	ND		20	

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QUALIFIERS

Project: BRIDGETON 4337
Pace Project No.: 60178023

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-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON 4337
Pace Project No.: 60178023

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178023001	**SLUDGE TRUCK ONE**	EPA 3535	OEXT/2808	EPA 8081A	GCSV/2384
60178023002	**SLUDGE TRUCK ONE**	EPA 3546	OEXT/46151	EPA 8082	GCSV/17620
60178023001	**SLUDGE TRUCK ONE**	EPA 3535A	OEXT/2809	EPA 8151	GCSV/2387
60178023001	**SLUDGE TRUCK ONE**	EPA 3010	MPRP/28953	EPA 6010	ICP/21805
60178023001	**SLUDGE TRUCK ONE**	EPA 7470	MERP/8812	EPA 7470	MERC/8766
60178023001	**SLUDGE TRUCK ONE**	EPA 3510	OEXT/46186	EPA 8270	MSSV/14836
60178023002	**SLUDGE TRUCK ONE**	EPA 8260	MSV/64482		
60178023001	**SLUDGE TRUCK ONE**	ASTM D2974	PMST/10025		
60178023001	**SLUDGE TRUCK ONE**	SM 2540G	WET/50305		
60178023001	**SLUDGE TRUCK ONE**	SW-846 7.3.4.2	WET/3518	SW-846 7.3.4.2	WET/3530
60178023001	**SLUDGE TRUCK ONE**	EPA 9045	WET/50395		
60178023001	**SLUDGE TRUCK ONE**	EPA 9095	WET/50348		
60178023001	**SLUDGE TRUCK ONE**	ASTM D92	WET/50386		
60178023001	**SLUDGE TRUCK ONE**	EPA 300.0	WETA/31039	EPA 300.0	WETA/31040
60178023001	**SLUDGE TRUCK ONE**	SW-846 7.3.3.2	WETA/3051	SW-846 7.3.3.2	WETA/3067
60178023001	**SLUDGE TRUCK ONE**	EPA 9023	WETA/3075	EPA 9023	WETA/3084
60178023001	**SLUDGE TRUCK ONE**	EPA 9065	WETA/3068	EPA 9065	WETA/3077

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Sample Condition Upon Receipt

WO# : 60178023

60178023

Client Name: Republic Service

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: 4.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JW 9/16/14

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.
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	7. ASAP
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: SL		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: 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: 9/16/14

Pace Analytical
www.pacelabs.com

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:	Republic Services
Address:	13570 St. Charles Rock Rd
	Bridgeton, MO 63044
Email To:	dbouchard@republicservices.com
Phone: 314-302-3634	Fax:
Requested Due Date/TAT:	ASAP

Section B Required Project Information:

Report To:	Derek Bouchard
Copy To:	Kevin Kamp (kkamp@cecinc.com)
Purchase Order No.:	
Project Name:	BRIDGETON
Project Number:	4337

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 #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER _____

Site Location STATE: MO

Section D Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

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

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other
1	SLUDGE TRUCK ONE		C	9/15	1:30	9/15	2:00		4	4							
2	SLUDGE TRUCK ONE		G	9/15	1:30	9/15	2:00		1	1							
3																	
4																	
5																	
6																	
7																	
8																	
9																	
10																	
11																	
12																	

Requested Analysis Filtered (Y/N)

Y/N	Analysis Test	TCLP RCRA 8	TCLP SVOCs	TCLP Herbicides	TCLP Pesticides	Reactive Cyanide/Sulfide	Flashpoint	EOX	Paint Filter, pH, % Solids	Phenol	TCLP VOCs	PCBs EPA 8082	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
														60175023
		x	x	x	x	x	x	x	x	x				1WGKU 01
											x	x		1WGKU 02

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
9/16-ADDED SO4		9/15/14	1500		9/16	0155	4.0	X	X	X

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael KEEN

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 09-15-2014

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.

F-ALL-Q-020rev.08, 12-Oct-2007

Chain of Custody

WO# : 209506

209506

Workorder: 60178023 **Workorder Name:** BRIDGETON 4337 **Owner Received Date:** 9/16/2014 **Results Requested By:** 9/19/2014

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 New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: none	Phenol 9095	Reactive S & CN	TOX-EOX	TCLP Pest	TCLP Herb	TCLP prep-charge when needed	LAB USE ONLY
1	SLUDGE TRUCK ONE	PS	9/15/2014 14:00	60178023001	Solid	2	X	X	X	X	X	X	
2													
3													
4													
5													

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] FedEx	9/16/14 17:0	FedEx	
2	FedEx	9-17-14 900	[signature]	9-17-14 900
3				

Comments

Cooler Temperature on Receipt 4.6 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Condition

WO# : 209506

PM: KHB Due Date: 09/22/14
CLIENT: PASI-KANS PASI - Kansas

Courier: ☐ Pace Courier ☐ Hired Courier ☒ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☒Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☒ Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 09-17-14 MA

Temp must be measured from Temperature blank when present

					Comments:
Temperature Blank Present"?	☒Yes	☐No	☐N/A	1	
Chain of Custody Present:	☒Yes	☐No	☐N/A	2	
Chain of Custody Complete:	☒Yes	☐No	☐N/A	3	
Chain of Custody Relinquished:	☒Yes	☐No	☐N/A	4	
Sampler Name & Signature on COC:	☒Yes	☐No	☐N/A	5	
Samples Arrived within Hold Time:	☒Yes	☐No	☐N/A	6	
Sufficient Volume:	☒Yes	☐No	☐N/A	7	
Correct Containers Used:	☒Yes	☐No	☐N/A	8	3x 8oz Soil Jars
Filtered vol. Rec. for Diss. tests	☐Yes	☐No	☒N/A	9	
Sample Labels match COC:	☒Yes	☐No	☐N/A	10	
All containers received within manafacture's precautionary and/or expiration dates.	☒Yes	☐No	☐N/A	11	
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No	☒N/A	12	
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No	☒N/A	13	If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO_3 _____ H_2SO_4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No	☒N/A	14	
Trip Blank Present:	☐Yes	☒No		15	

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

September 24, 2014

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

RE: Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

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

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 T1-007
Pace Project No.: 60178106

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 T1-007
Pace Project No.: 60178106

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178106001	**T1-007**	Water	09/15/14 13:43	09/17/14 02:25
60178106002	**TRIP BLANK**	Water	09/15/14 13:43	09/17/14 02:25

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

SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178106001	**T1-007**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178106002	**TRIP BLANK**	EPA 624 Low	EAK	28

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

Sample: T1-007 **Lab ID: 60178106001** Collected: 09/15/14 13:43 Received: 09/17/14 02:25 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	**2480**	ug/L	375	1	09/18/14 10:00	09/21/14 17:28	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:28	7440-36-0	
Arsenic	**463**	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:28	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/18/14 10:00	09/21/14 17:28	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:28	7440-43-9	
Chromium	**98.8**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:28	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:28	7440-48-4	
Copper	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:28	7440-50-8	
Iron	**232000**	ug/L	250	1	09/18/14 10:00	09/21/14 17:28	7439-89-6	
Lead	**47.7**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:28	7439-92-1	
Nickel	**71.0**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:28	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/18/14 10:00	09/21/14 17:28	7782-49-2	
Silver	ND	ug/L	35.0	1	09/18/14 10:00	09/21/14 17:28	7440-22-4	
Thallium	ND	ug/L	100	1	09/18/14 10:00	09/21/14 17:28	7440-28-0	
Zinc	**1670**	ug/L	250	1	09/18/14 10:00	09/21/14 17:28	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	09/18/14 17:35	09/21/14 18:07	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:07	7440-36-0	
Arsenic, Dissolved	**323**	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:07	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/18/14 17:35	09/21/14 18:07	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:07	7440-43-9	
Chromium, Dissolved	**55.4**	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:07	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:07	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:07	7440-50-8	
Iron, Dissolved	**15100**	ug/L	250	1	09/18/14 17:35	09/21/14 18:07	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:07	7439-92-1	
Nickel, Dissolved	**56.6**	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:07	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/18/14 17:35	09/21/14 18:07	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/18/14 17:35	09/21/14 18:07	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/18/14 17:35	09/21/14 18:07	7440-28-0	
Zinc, Dissolved	ND	ug/L	250	1	09/18/14 17:35	09/21/14 18:07	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/20/14 15:20	09/21/14 14:08	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	09/20/14 15:20	09/21/14 15:06	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	25.0	1	09/17/14 00:00	09/18/14 11:14	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1	09/17/14 00:00	09/18/14 11:14	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	20.0	1	09/17/14 00:00	09/18/14 11:14		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

Sample: T1-007 **Lab ID: 60178106001** Collected: 09/15/14 13:43 Received: 09/17/14 02:25 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	5.0	1	09/17/14 00:00	09/18/14 11:14	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	98-95-3	
Pentachlorophenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	87-86-5	
Phenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:14	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	108	%	33-120	1	09/17/14 00:00	09/18/14 11:14	4165-60-0	
2-Fluorobiphenyl (S)	100	%	39-120	1	09/17/14 00:00	09/18/14 11:14	321-60-8	
Terphenyl-d14 (S)	111	%	45-120	1	09/17/14 00:00	09/18/14 11:14	1718-51-0	
Phenol-d6 (S)	33	%	11-120	1	09/17/14 00:00	09/18/14 11:14	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	1	09/17/14 00:00	09/18/14 11:14	367-12-4	
2,4,6-Tribromophenol (S)	109	%	39-120	1	09/17/14 00:00	09/18/14 11:14	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**24300**	ug/L	1000	100		09/18/14 14:37	67-64-1	N2
Benzene	ND	ug/L	100	100		09/18/14 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/18/14 14:37	75-27-4	
Bromoform	ND	ug/L	100	100		09/18/14 14:37	75-25-2	
Bromomethane	ND	ug/L	500	100		09/18/14 14:37	74-83-9	
2-Butanone (MEK)	**9230**	ug/L	1000	100		09/18/14 14:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/18/14 14:37	56-23-5	
Chloroethane	ND	ug/L	100	100		09/18/14 14:37	75-00-3	
Chloroform	ND	ug/L	100	100		09/18/14 14:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/18/14 14:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/18/14 14:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 14:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 14:37	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/18/14 14:37	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/18/14 14:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/18/14 14:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/18/14 14:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/18/14 14:37	127-18-4	
Toluene	ND	ug/L	100	100		09/18/14 14:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/18/14 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/18/14 14:37	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/18/14 14:37	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/18/14 14:37	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/18/14 14:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	100		09/18/14 14:37	460-00-4	
Toluene-d8 (S)	103	%	80-120	100		09/18/14 14:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	100		09/18/14 14:37	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/18/14 14:37		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**34.2**	mg/L	5.0	1		09/18/14 14:39		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

Sample: T1-007 **Lab ID: 60178106001** Collected: 09/15/14 13:43 Received: 09/17/14 02:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		09/18/14 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2560**	mg/L	5.0	1		09/17/14 13:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/22/14 13:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**3820**	mg/L	2.0	1	09/17/14 12:09	09/22/14 13:52		1e
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**43.5**	mg/L	1.0	10		09/22/14 10:19	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**8760**	mg/L	2500	250		09/24/14 09:30		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

Sample: TRIP BLANK **Lab ID: 60178106002** Collected: 09/15/14 13:43 Received: 09/17/14 02:25 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		09/18/14 12:34	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/17/14 19:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/17/14 19:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/17/14 19:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/17/14 19:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/17/14 19:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/17/14 19:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/17/14 19:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/17/14 19:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/17/14 19:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/17/14 19:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/17/14 19:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/17/14 19:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/17/14 19:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/17/14 19:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/17/14 19:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/17/14 19:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/17/14 19:37	127-18-4	
Toluene	ND	ug/L	1.0	1		09/17/14 19:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/17/14 19:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/17/14 19:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/17/14 19:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/17/14 19:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/17/14 19:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	109	%	80-120	1		09/17/14 19:37	460-00-4	
Toluene-d8 (S)	103	%	80-120	1		09/17/14 19:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/17/14 19:37	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/17/14 19:37		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MERP/8823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178106001

METHOD BLANK: 1445806 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/21/14 14:01	

LABORATORY CONTROL SAMPLE: 1445807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE SAMPLE: 1445810

Parameter	Units	60178232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	1.9	37	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445986 1445987

Parameter	Units	60178106001 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	95.4	92.4	64	62	70-130	3	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MERP/8829
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178106001

METHOD BLANK: 1446381 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/21/14 14:48	

LABORATORY CONTROL SAMPLE: 1446382

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: 1446383 1446384

Parameter	Units	60177980001 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	102	102	68	68	70-130	1	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MPRP/28956
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178106001

METHOD BLANK: 1444555 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/21/14 17:02	
Antimony	ug/L	ND	10.0	09/21/14 17:02	
Arsenic	ug/L	ND	10.0	09/21/14 17:02	
Beryllium	ug/L	ND	1.0	09/21/14 17:02	
Cadmium	ug/L	ND	5.0	09/21/14 17:02	
Chromium	ug/L	ND	5.0	09/21/14 17:02	
Cobalt	ug/L	ND	5.0	09/21/14 17:02	
Copper	ug/L	ND	10.0	09/21/14 17:02	
Iron	ug/L	ND	50.0	09/21/14 17:02	
Lead	ug/L	ND	5.0	09/21/14 17:02	
Nickel	ug/L	ND	5.0	09/21/14 17:02	
Selenium	ug/L	ND	15.0	09/21/14 17:02	
Silver	ug/L	ND	7.0	09/21/14 17:02	
Thallium	ug/L	ND	20.0	09/21/14 17:02	
Zinc	ug/L	ND	50.0	09/21/14 17:02	

LABORATORY CONTROL SAMPLE: 1444556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9920	99	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	974	97	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	993	99	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	991	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	980	98	85-115	
Silver	ug/L	500	492	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	996	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444557 1444558

Parameter	Units	60177980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	664	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5430	5300	108	106	70-130	2	7	
Arsenic	ug/L	463	5000	5000	5780	5640	106	103	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5020	4900	100	98	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5280	5200	106	104	70-130	2	10	
Chromium	ug/L	88.4	5000	5000	5080	5040	100	99	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5010	4930	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5280	5180	106	104	70-130	2	11	
Iron	ug/L	62700	50000	50000	108000	103000	91	81	70-130	5	10	
Lead	ug/L	29.5	5000	5000	4770	4670	95	93	70-130	2	10	
Nickel	ug/L	67.6	5000	5000	4990	4900	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5470	5370	109	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2720	2680	109	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4520	91	90	70-130	1	6	
Zinc	ug/L	2860	5000	5000	7520	7260	93	88	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MPRP/28973
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178106001

METHOD BLANK: 1445529
Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/21/14 17:46	
Antimony, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Arsenic, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Beryllium, Dissolved	ug/L	ND	1.0	09/21/14 17:46	
Cadmium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Chromium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Cobalt, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Copper, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Iron, Dissolved	ug/L	ND	50.0	09/21/14 17:46	
Lead, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Nickel, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Selenium, Dissolved	ug/L	ND	15.0	09/21/14 17:46	
Silver, Dissolved	ug/L	ND	7.0	09/21/14 17:46	
Thallium, Dissolved	ug/L	ND	20.0	09/21/14 17:46	
Zinc, Dissolved	ug/L	ND	50.0	09/21/14 17:46	

LABORATORY CONTROL SAMPLE: 1445530

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	985	98	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	996	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	995	99	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445531 1445532

Parameter	Units	60177981001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	51000	51400	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5340	5390	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	344	5000	5000	5580	5620	105	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5010	5040	100	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5190	5260	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	63.0	5000	5000	5120	5190	101	103	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5110	101	102	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5240	104	105	70-130	1	11	
Iron, Dissolved	ug/L	20000	50000	50000	68800	69000	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4890	96	98	70-130	1	10	
Nickel, Dissolved	ug/L	59.2	5000	5000	5040	5100	100	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5340	5400	107	108	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2670	106	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4740	93	95	70-130	2	6	
Zinc, Dissolved	ug/L	272	5000	5000	5140	5230	97	99	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MSV/64451
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60178106002

METHOD BLANK: 1444135
Matrix: Water
Associated Lab Samples: 60178106002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/17/14 12:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/17/14 12:55	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/17/14 12:55	
1,2-Dichloroethane	ug/L	ND	1.0	09/17/14 12:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/17/14 12:55	
2-Butanone (MEK)	ug/L	ND	10.0	09/17/14 12:55	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/17/14 12:55	N2
Benzene	ug/L	ND	1.0	09/17/14 12:55	
Bromodichloromethane	ug/L	ND	1.0	09/17/14 12:55	
Bromoform	ug/L	ND	1.0	09/17/14 12:55	
Bromomethane	ug/L	ND	5.0	09/17/14 12:55	
Carbon tetrachloride	ug/L	ND	1.0	09/17/14 12:55	
Chloroethane	ug/L	ND	1.0	09/17/14 12:55	
Chloroform	ug/L	ND	1.0	09/17/14 12:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/17/14 12:55	N2
Ethylbenzene	ug/L	ND	1.0	09/17/14 12:55	
Methylene chloride	ug/L	ND	1.0	09/17/14 12:55	
Tetrachloroethene	ug/L	ND	1.0	09/17/14 12:55	
Toluene	ug/L	ND	1.0	09/17/14 12:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/17/14 12:55	
Trichloroethene	ug/L	ND	1.0	09/17/14 12:55	
Vinyl chloride	ug/L	ND	1.0	09/17/14 12:55	
Xylene (Total)	ug/L	ND	3.0	09/17/14 12:55	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	09/17/14 12:55	
4-Bromofluorobenzene (S)	%	104	80-120	09/17/14 12:55	
Toluene-d8 (S)	%	102	80-120	09/17/14 12:55	

LABORATORY CONTROL SAMPLE: 1444136

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	19.6	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.4	97	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	79.0	79	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	90.0	90	59-131	N2
Benzene	ug/L	20	19.8	99	75-120	
Bromodichloromethane	ug/L	20	19.5	98	68-125	
Bromoform	ug/L	20	17.2	86	65-127	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

LABORATORY CONTROL SAMPLE: 1444136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromomethane	ug/L	20	15.2	76	13-157	
Carbon tetrachloride	ug/L	20	19.3	97	70-131	
Chloroethane	ug/L	20	19.0	95	47-133	
Chloroform	ug/L	20	18.1	91	65-127	
cis-1,2-Dichloroethene	ug/L	20	18.7	94	68-127	N2
Ethylbenzene	ug/L	20	19.2	96	74-122	
Methylene chloride	ug/L	20	19.1	95	64-129	
Tetrachloroethene	ug/L	20	18.9	95	73-125	
Toluene	ug/L	20	19.8	99	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	18.9	95	43-129	
Xylene (Total)	ug/L	60	57.5	96	75-121	N2
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: MSV/64484 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178106001, 60178106002

METHOD BLANK: 1444940 Matrix: Water
Associated Lab Samples: 60178106001, 60178106002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/18/14 11:54	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,2-Dichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/18/14 11:54	
2-Butanone (MEK)	ug/L	ND	10.0	09/18/14 11:54	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/18/14 11:54	N2
Acetone	ug/L	ND	10.0	09/18/14 11:54	N2
Benzene	ug/L	ND	1.0	09/18/14 11:54	
Bromodichloromethane	ug/L	ND	1.0	09/18/14 11:54	
Bromoform	ug/L	ND	1.0	09/18/14 11:54	
Bromomethane	ug/L	ND	5.0	09/18/14 11:54	
Carbon tetrachloride	ug/L	ND	1.0	09/18/14 11:54	
Chloroethane	ug/L	ND	1.0	09/18/14 11:54	
Chloroform	ug/L	ND	1.0	09/18/14 11:54	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	N2
Ethylbenzene	ug/L	ND	1.0	09/18/14 11:54	
Methylene chloride	ug/L	ND	1.0	09/18/14 11:54	
Tetrachloroethene	ug/L	ND	1.0	09/18/14 11:54	
Toluene	ug/L	ND	1.0	09/18/14 11:54	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Trichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Vinyl chloride	ug/L	ND	1.0	09/18/14 11:54	
Xylene (Total)	ug/L	ND	3.0	09/18/14 11:54	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	09/18/14 11:54	
4-Bromofluorobenzene (S)	%	108	80-120	09/18/14 11:54	
Toluene-d8 (S)	%	102	80-120	09/18/14 11:54	

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	15.8	79	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.6	93	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.3	91	67-124	
1,2-Dichloroethane	ug/L	20	19.3	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	82.9	83	59-131	N2
Acetone	ug/L	100	80.6	81	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.1	95	68-125	
Bromoform	ug/L	20	17.2	86	65-127	
Bromomethane	ug/L	20	15.0	75	13-157	
Carbon tetrachloride	ug/L	20	17.1	86	70-131	
Chloroethane	ug/L	20	17.7	89	47-133	
Chloroform	ug/L	20	15.0	75	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	19.1	95	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	19.5	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.5	93	66-129	
Trichloroethene	ug/L	20	19.3	96	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	1690	84	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	2020	101	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1930	96	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1980	99	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	2080	101	33-140	
2-Butanone (MEK)	ug/L	9230	10000	17200	79	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8620	85	40-160	N2
Acetone	ug/L	24300	10000	32200	79	10-160	N2
Benzene	ug/L	ND	2000	2030	101	37-151	
Bromodichloromethane	ug/L	ND	2000	1910	96	35-142	
Bromoform	ug/L	ND	2000	1720	86	45-142	
Bromomethane	ug/L	ND	2000	1450	73	10-158	
Carbon tetrachloride	ug/L	ND	2000	1890	94	70-140	
Chloroethane	ug/L	ND	2000	1820	91	19-152	
Chloroform	ug/L	ND	2000	1860	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	1940	97	34-147	N2
Ethylbenzene	ug/L	ND	2000	2040	102	40-142	
Methylene chloride	ug/L	ND	2000	1970	96	31-144	
Tetrachloroethene	ug/L	ND	2000	2120	106	64-148	
Toluene	ug/L	ND	2000	2010	101	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	1870	93	54-151	
Trichloroethene	ug/L	ND	2000	2000	100	71-149	
Vinyl chloride	ug/L	ND	2000	1770	89	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6150	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				103	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 T1-007
Pace Project No.: 60178106

QC Batch: OEXT/46161
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178106001

METHOD BLANK: 1443998
Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/18/14 08:49	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/18/14 08:49	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/18/14 08:49	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/18/14 08:49	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/18/14 08:49	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/18/14 08:49	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/18/14 08:49	
Hexachloroethane	ug/L	ND	5.0	09/18/14 08:49	
Naphthalene	ug/L	ND	5.0	09/18/14 08:49	
Nitrobenzene	ug/L	ND	5.0	09/18/14 08:49	
Pentachlorophenol	ug/L	ND	5.0	09/18/14 08:49	
Phenol	ug/L	ND	5.0	09/18/14 08:49	
2,4,6-Tribromophenol (S)	%	83	39-120	09/18/14 08:49	
2-Fluorobiphenyl (S)	%	81	39-120	09/18/14 08:49	
2-Fluorophenol (S)	%	40	17-120	09/18/14 08:49	
Nitrobenzene-d5 (S)	%	77	33-120	09/18/14 08:49	
Phenol-d6 (S)	%	26	11-120	09/18/14 08:49	
Terphenyl-d14 (S)	%	95	45-120	09/18/14 08:49	

LABORATORY CONTROL SAMPLE: 1443999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.6	73	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.1	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	52.5	105	40-133	
Hexachloro-1,3-butadiene	ug/L	50	33.4	67	44-116	
Hexachlorocyclopentadiene	ug/L	100	44.1	44	24-120	
Hexachloroethane	ug/L	50	30.5	61	43-113	
Naphthalene	ug/L	50	37.3	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	53.4	107	47-120	
Phenol	ug/L	50	14.4	29	16-112	
2,4,6-Tribromophenol (S)	%			101	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			103	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

MATRIX SPIKE SAMPLE: 1444000

Parameter	Units	60178066001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	43.6	87	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	50.0	100	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	41.4	83	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	37.0	74	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	53.6	107	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	41.2	82	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	52.1	52	11-120	
Hexachloroethane	ug/L	ND	50	48.6	97	40-113	
Naphthalene	ug/L	ND	50	42.9	86	45-120	
Nitrobenzene	ug/L	ND	50	45.7	91	38-120	
Pentachlorophenol	ug/L	ND	50	56.3	113	43-135	
Phenol	ug/L	ND	50	22.2	44	13-112	
2,4,6-Tribromophenol (S)	%				104	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				59	17-120	
Nitrobenzene-d5 (S)	%				91	33-120	
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				105	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WET/50391 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178106001

METHOD BLANK: 1446009 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/18/14 14:35	

LABORATORY CONTROL SAMPLE: 1446010

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.2	100	78-114	

MATRIX SPIKE SAMPLE: 1446012

Parameter	Units	50103606001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	228	40.4	332	256	78-114	M1

SAMPLE DUPLICATE: 1446011

Parameter	Units	60177671001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.3J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WET/50392 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178106001

METHOD BLANK: 1446019 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/18/14 14:43	

LABORATORY CONTROL SAMPLE: 1446020

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

MATRIX SPIKE SAMPLE: 1446022

Parameter	Units	50103606001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	77.8	20.2	138	297	64-132	M1

SAMPLE DUPLICATE: 1446021

Parameter	Units	60177671001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WET/50355
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178106001

METHOD BLANK: 1444756
Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/17/14 13:30	

SAMPLE DUPLICATE: 1444757

Parameter	Units	60177988002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	ND		10	

SAMPLE DUPLICATE: 1444758

Parameter	Units	60178029001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	140	180	25	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WET/50413
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178106001

SAMPLE DUPLICATE: 1447127

Parameter	Units	60177937001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WET/50328 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178106001

METHOD BLANK: 1444291 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/22/14 13:32	

LABORATORY CONTROL SAMPLE: 1444292

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	199	101	85-115	

SAMPLE DUPLICATE: 1444293

Parameter	Units	60178005006 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178106001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60178106001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 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 T1-007
Pace Project No.: 60178106

QC Batch: WETA/31094
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178106001

METHOD BLANK: 1447430 Matrix: Water
Associated Lab Samples: 60178106001

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

LABORATORY CONTROL SAMPLE: 1447431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.6	107	90-110	

MATRIX SPIKE SAMPLE: 1447432

Parameter	Units	60177688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	944	500	1400	92	90-110	

MATRIX SPIKE SAMPLE: 1447434

Parameter	Units	60178120001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	16500	12500	27500	88	90-110	M1

SAMPLE DUPLICATE: 1447433

Parameter	Units	60177762001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1580	1300	20	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-007
Pace Project No.: 60178106

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.

BATCH QUALIFIERS

Batch: MSV/64451

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

ANALYTE QUALIFIERS

1e	Oxygen usage is less than 2.0 for all dilutions set. The reported value is an estimated value.
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 T1-007
Pace Project No.: 60178106

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178106001	**T1-007**	EPA 200.7	MPRP/28956	EPA 200.7	ICP/21817
60178106001	**T1-007**	EPA 200.7	MPRP/28973	EPA 200.7	ICP/21815
60178106001	**T1-007**	EPA 245.1	MERP/8823	EPA 245.1	MERC/8787
60178106001	**T1-007**	EPA 245.1	MERP/8829	EPA 245.1	MERC/8788
60178106001	**T1-007**	EPA 625	OEXT/46161	EPA 625	MSSV/14831
60178106001	**T1-007**	EPA 624 Low	MSV/64484		
60178106002	**TRIP BLANK**	EPA 624 Low	MSV/64451		
60178106002	**TRIP BLANK**	EPA 624 Low	MSV/64484		
60178106001	**T1-007**	EPA 1664A	WET/50391		
60178106001	**T1-007**	EPA 1664A	WET/50392		
60178106001	**T1-007**	SM 2540D	WET/50355		
60178106001	**T1-007**	SM 4500-H+B	WET/50413		
60178106001	**T1-007**	SM 5210B	WET/50328	SM 5210B	WET/50471
60178106001	**T1-007**	EPA 350.1	WETA/31084		
60178106001	**T1-007**	EPA 410.4	WETA/31094		

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Sample Condition Upon Receipt

WO# : 60178106

60178106

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 ☑ ZPAC

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

Cooler Temperature: 0.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 9/17/14

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. Bob 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. 6.0/3.5 Added 1.0 ml of H2SO4 to BP3S. 5.0/1.5
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 12787
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 ATB Date: 9/18/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	601 78106
1	TI-0072AG4U 1BP5U 3AG3S	OT	G	9/15/14	1343				5	10	4	1	0	1BP3N					X	X	X	X	X	X	X	X	X	X	1BP3S		1 5 2BP2U 5DG4U 001 2DG4U 002
2	TRIP BLANK								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 EX	9-16-14	13:15		9-16-14	13:15				
SITE ADDRESS: BRIDGETON LF					9/17/14	0225	0.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	WILLIAM ABERNATHY	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 9/15/14				

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

September 24, 2014

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

RE: Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

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

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 T1-008
Pace Project No.: 60178120

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 T1-008
Pace Project No.: 60178120

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178120001	**T1-008**	Water	09/16/14 09:49	09/17/14 02:25
60178120002	**TRIP BLANK**	Water	09/16/14 09:49	09/17/14 02:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178120001	**T1-008**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178120002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Sample: T1-008 **Lab ID: 60178120001** Collected: 09/16/14 09:49 Received: 09/17/14 02:25 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	**1970**	ug/L	375	1	09/18/14 10:00	09/21/14 17:32	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:32	7440-36-0	
Arsenic	**578**	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:32	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/18/14 10:00	09/21/14 17:32	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:32	7440-43-9	
Chromium	**125**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:32	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:32	7440-48-4	
Copper	ND	ug/L	50.0	1	09/18/14 10:00	09/21/14 17:32	7440-50-8	
Iron	**232000**	ug/L	250	1	09/18/14 10:00	09/21/14 17:32	7439-89-6	
Lead	**49.0**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:32	7439-92-1	
Nickel	**78.8**	ug/L	25.0	1	09/18/14 10:00	09/21/14 17:32	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/18/14 10:00	09/21/14 17:32	7782-49-2	
Silver	ND	ug/L	35.0	1	09/18/14 10:00	09/21/14 17:32	7440-22-4	
Thallium	ND	ug/L	100	1	09/18/14 10:00	09/21/14 17:32	7440-28-0	
Zinc	**1930**	ug/L	250	1	09/18/14 10:00	09/21/14 17:32	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	09/18/14 17:35	09/21/14 18:10	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:10	7440-36-0	
Arsenic, Dissolved	**406**	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:10	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/18/14 17:35	09/21/14 18:10	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:10	7440-43-9	
Chromium, Dissolved	**76.0**	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:10	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:10	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/18/14 17:35	09/21/14 18:10	7440-50-8	
Iron, Dissolved	**52700**	ug/L	250	1	09/18/14 17:35	09/21/14 18:10	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:10	7439-92-1	
Nickel, Dissolved	**60.4**	ug/L	25.0	1	09/18/14 17:35	09/21/14 18:10	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/18/14 17:35	09/21/14 18:10	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/18/14 17:35	09/21/14 18:10	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/18/14 17:35	09/21/14 18:10	7440-28-0	
Zinc, Dissolved	**500**	ug/L	250	1	09/18/14 17:35	09/21/14 18:10	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/20/14 15:20	09/21/14 14:14	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	09/20/14 15:20	09/21/14 15:08	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	25.0	1	09/17/14 00:00	09/18/14 11:35	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1	09/17/14 00:00	09/18/14 11:35	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	20.0	1	09/17/14 00:00	09/18/14 11:35		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Sample: T1-008 **Lab ID: 60178120001** Collected: 09/16/14 09:49 Received: 09/17/14 02:25 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	5.0	1	09/17/14 00:00	09/18/14 11:35	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	98-95-3	
Pentachlorophenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	87-86-5	
Phenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	5.0	1	09/17/14 00:00	09/18/14 11:35	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	101	%	33-120	1	09/17/14 00:00	09/18/14 11:35	4165-60-0	
2-Fluorobiphenyl (S)	91	%	39-120	1	09/17/14 00:00	09/18/14 11:35	321-60-8	
Terphenyl-d14 (S)	99	%	45-120	1	09/17/14 00:00	09/18/14 11:35	1718-51-0	
Phenol-d6 (S)	30	%	11-120	1	09/17/14 00:00	09/18/14 11:35	13127-88-3	
2-Fluorophenol (S)	39	%	17-120	1	09/17/14 00:00	09/18/14 11:35	367-12-4	
2,4,6-Tribromophenol (S)	101	%	39-120	1	09/17/14 00:00	09/18/14 11:35	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**37700**	ug/L	1000	100		09/18/14 15:08	67-64-1	N2
Benzene	ND	ug/L	100	100		09/18/14 15:08	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/18/14 15:08	75-27-4	
Bromoform	ND	ug/L	100	100		09/18/14 15:08	75-25-2	
Bromomethane	ND	ug/L	500	100		09/18/14 15:08	74-83-9	
2-Butanone (MEK)	**13700**	ug/L	1000	100		09/18/14 15:08	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/18/14 15:08	56-23-5	
Chloroethane	ND	ug/L	100	100		09/18/14 15:08	75-00-3	
Chloroform	ND	ug/L	100	100		09/18/14 15:08	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/18/14 15:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/18/14 15:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 15:08	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 15:08	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/18/14 15:08	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/18/14 15:08	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/18/14 15:08	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/18/14 15:08	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/18/14 15:08	127-18-4	
Toluene	ND	ug/L	100	100		09/18/14 15:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/18/14 15:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/18/14 15:08	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/18/14 15:08	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/18/14 15:08	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/18/14 15:08	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	100		09/18/14 15:08	460-00-4	
Toluene-d8 (S)	100	%	80-120	100		09/18/14 15:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	100		09/18/14 15:08	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/18/14 15:08		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**107**	mg/L	5.0	1		09/18/14 14:40		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Sample: T1-008 **Lab ID: 60178120001** Collected: 09/16/14 09:49 Received: 09/17/14 02:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		09/18/14 14:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4640**	mg/L	5.0	1		09/18/14 09:43		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/22/14 13:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**10300**	mg/L	2.0	1	09/18/14 09:32	09/23/14 09:07		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**164**	mg/L	5.0	50		09/22/14 10:20	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**16500**	mg/L	2500	250		09/24/14 09:31		M1

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Sample: TRIP BLANK **Lab ID: 60178120002** Collected: 09/16/14 09:49 Received: 09/17/14 02:25 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		09/18/14 14:22	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/18/14 14:22	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/18/14 14:22	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/18/14 14:22	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/18/14 14:22	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/18/14 14:22	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/18/14 14:22	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/18/14 14:22	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/18/14 14:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/18/14 14:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/18/14 14:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/18/14 14:22	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/18/14 14:22	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/18/14 14:22	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/18/14 14:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/18/14 14:22	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/18/14 14:22	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/18/14 14:22	127-18-4	
Toluene	ND	ug/L	1.0	1		09/18/14 14:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/18/14 14:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/18/14 14:22	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/18/14 14:22	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/18/14 14:22	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/18/14 14:22	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	1		09/18/14 14:22	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		09/18/14 14:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/18/14 14:22	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/18/14 14:22		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: MERP/8823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178120001

METHOD BLANK: 1445806 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/21/14 14:01	

LABORATORY CONTROL SAMPLE: 1445807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE SAMPLE: 1445810

Parameter	Units	60178232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	1.9	37	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445986 1445987

Parameter	Units	60178106001 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	95.4	92.4	64	62	70-130	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: MERP/8829
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178120001

METHOD BLANK: 1446381 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/21/14 14:48	

LABORATORY CONTROL SAMPLE: 1446382

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: 1446383 1446384

Parameter	Units	60177980001 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	102	102	68	68	70-130	1	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: MPRP/28956
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178120001

METHOD BLANK: 1444555
Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/21/14 17:02	
Antimony	ug/L	ND	10.0	09/21/14 17:02	
Arsenic	ug/L	ND	10.0	09/21/14 17:02	
Beryllium	ug/L	ND	1.0	09/21/14 17:02	
Cadmium	ug/L	ND	5.0	09/21/14 17:02	
Chromium	ug/L	ND	5.0	09/21/14 17:02	
Cobalt	ug/L	ND	5.0	09/21/14 17:02	
Copper	ug/L	ND	10.0	09/21/14 17:02	
Iron	ug/L	ND	50.0	09/21/14 17:02	
Lead	ug/L	ND	5.0	09/21/14 17:02	
Nickel	ug/L	ND	5.0	09/21/14 17:02	
Selenium	ug/L	ND	15.0	09/21/14 17:02	
Silver	ug/L	ND	7.0	09/21/14 17:02	
Thallium	ug/L	ND	20.0	09/21/14 17:02	
Zinc	ug/L	ND	50.0	09/21/14 17:02	

LABORATORY CONTROL SAMPLE: 1444556

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9920	99	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	974	97	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	993	99	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	991	99	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	980	98	85-115	
Silver	ug/L	500	492	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	996	100	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444557 1444558

Parameter	Units	60177980001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	664	50000	50000	52200	51600	103	102	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5430	5300	108	106	70-130	2	7	
Arsenic	ug/L	463	5000	5000	5780	5640	106	103	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5020	4900	100	98	70-130	2	7	
Cadmium	ug/L	ND	5000	5000	5280	5200	106	104	70-130	2	10	
Chromium	ug/L	88.4	5000	5000	5080	5040	100	99	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5010	4930	100	98	70-130	2	6	
Copper	ug/L	ND	5000	5000	5280	5180	106	104	70-130	2	11	
Iron	ug/L	62700	50000	50000	108000	103000	91	81	70-130	5	10	
Lead	ug/L	29.5	5000	5000	4770	4670	95	93	70-130	2	10	
Nickel	ug/L	67.6	5000	5000	4990	4900	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5470	5370	109	107	70-130	2	10	
Silver	ug/L	ND	2500	2500	2720	2680	109	107	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4570	4520	91	90	70-130	1	6	
Zinc	ug/L	2860	5000	5000	7520	7260	93	88	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: MPRP/28973
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178120001

METHOD BLANK: 1445529
Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/21/14 17:46	
Antimony, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Arsenic, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Beryllium, Dissolved	ug/L	ND	1.0	09/21/14 17:46	
Cadmium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Chromium, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Cobalt, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Copper, Dissolved	ug/L	ND	10.0	09/21/14 17:46	
Iron, Dissolved	ug/L	ND	50.0	09/21/14 17:46	
Lead, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Nickel, Dissolved	ug/L	ND	5.0	09/21/14 17:46	
Selenium, Dissolved	ug/L	ND	15.0	09/21/14 17:46	
Silver, Dissolved	ug/L	ND	7.0	09/21/14 17:46	
Thallium, Dissolved	ug/L	ND	20.0	09/21/14 17:46	
Zinc, Dissolved	ug/L	ND	50.0	09/21/14 17:46	

LABORATORY CONTROL SAMPLE: 1445530

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	985	98	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	996	100	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9980	100	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	995	99	85-115	
Silver, Dissolved	ug/L	500	493	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445531 1445532

Parameter	Units	60177981001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	51000	51400	102	103	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5340	5390	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	344	5000	5000	5580	5620	105	106	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5010	5040	100	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5190	5260	104	105	70-130	1	10	
Chromium, Dissolved	ug/L	63.0	5000	5000	5120	5190	101	103	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5040	5110	101	102	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5240	104	105	70-130	1	11	
Iron, Dissolved	ug/L	20000	50000	50000	68800	69000	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4820	4890	96	98	70-130	1	10	
Nickel, Dissolved	ug/L	59.2	5000	5000	5040	5100	100	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5340	5400	107	108	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2670	106	107	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4650	4740	93	95	70-130	2	6	
Zinc, Dissolved	ug/L	272	5000	5000	5140	5230	97	99	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: MSV/64484 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178120001, 60178120002

METHOD BLANK: 1444940 Matrix: Water
Associated Lab Samples: 60178120001, 60178120002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/18/14 11:54	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,2-Dichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/18/14 11:54	
2-Butanone (MEK)	ug/L	ND	10.0	09/18/14 11:54	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/18/14 11:54	N2
Acetone	ug/L	ND	10.0	09/18/14 11:54	N2
Benzene	ug/L	ND	1.0	09/18/14 11:54	
Bromodichloromethane	ug/L	ND	1.0	09/18/14 11:54	
Bromoform	ug/L	ND	1.0	09/18/14 11:54	
Bromomethane	ug/L	ND	5.0	09/18/14 11:54	
Carbon tetrachloride	ug/L	ND	1.0	09/18/14 11:54	
Chloroethane	ug/L	ND	1.0	09/18/14 11:54	
Chloroform	ug/L	ND	1.0	09/18/14 11:54	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	N2
Ethylbenzene	ug/L	ND	1.0	09/18/14 11:54	
Methylene chloride	ug/L	ND	1.0	09/18/14 11:54	
Tetrachloroethene	ug/L	ND	1.0	09/18/14 11:54	
Toluene	ug/L	ND	1.0	09/18/14 11:54	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Trichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Vinyl chloride	ug/L	ND	1.0	09/18/14 11:54	
Xylene (Total)	ug/L	ND	3.0	09/18/14 11:54	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	09/18/14 11:54	
4-Bromofluorobenzene (S)	%	108	80-120	09/18/14 11:54	
Toluene-d8 (S)	%	102	80-120	09/18/14 11:54	

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	15.8	79	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.6	93	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.3	91	67-124	
1,2-Dichloroethane	ug/L	20	19.3	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	82.9	83	59-131	N2
Acetone	ug/L	100	80.6	81	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.1	95	68-125	
Bromoform	ug/L	20	17.2	86	65-127	
Bromomethane	ug/L	20	15.0	75	13-157	
Carbon tetrachloride	ug/L	20	17.1	86	70-131	
Chloroethane	ug/L	20	17.7	89	47-133	
Chloroform	ug/L	20	15.0	75	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	19.1	95	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	19.5	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.5	93	66-129	
Trichloroethene	ug/L	20	19.3	96	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	1690	84	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	2020	101	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1930	96	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1980	99	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	2080	101	33-140	
2-Butanone (MEK)	ug/L	9230	10000	17200	79	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8620	85	40-160	N2
Acetone	ug/L	24300	10000	32200	79	10-160	N2
Benzene	ug/L	ND	2000	2030	101	37-151	
Bromodichloromethane	ug/L	ND	2000	1910	96	35-142	
Bromoform	ug/L	ND	2000	1720	86	45-142	
Bromomethane	ug/L	ND	2000	1450	73	10-158	
Carbon tetrachloride	ug/L	ND	2000	1890	94	70-140	
Chloroethane	ug/L	ND	2000	1820	91	19-152	
Chloroform	ug/L	ND	2000	1860	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	1940	97	34-147	N2
Ethylbenzene	ug/L	ND	2000	2040	102	40-142	
Methylene chloride	ug/L	ND	2000	1970	96	31-144	
Tetrachloroethene	ug/L	ND	2000	2120	106	64-148	
Toluene	ug/L	ND	2000	2010	101	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	1870	93	54-151	
Trichloroethene	ug/L	ND	2000	2000	100	71-149	
Vinyl chloride	ug/L	ND	2000	1770	89	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6150	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				103	80-120	
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: OEXT/46161
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178120001

METHOD BLANK: 1443998
Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/18/14 08:49	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/18/14 08:49	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/18/14 08:49	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/18/14 08:49	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/18/14 08:49	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/18/14 08:49	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/18/14 08:49	
Hexachloroethane	ug/L	ND	5.0	09/18/14 08:49	
Naphthalene	ug/L	ND	5.0	09/18/14 08:49	
Nitrobenzene	ug/L	ND	5.0	09/18/14 08:49	
Pentachlorophenol	ug/L	ND	5.0	09/18/14 08:49	
Phenol	ug/L	ND	5.0	09/18/14 08:49	
2,4,6-Tribromophenol (S)	%	83	39-120	09/18/14 08:49	
2-Fluorobiphenyl (S)	%	81	39-120	09/18/14 08:49	
2-Fluorophenol (S)	%	40	17-120	09/18/14 08:49	
Nitrobenzene-d5 (S)	%	77	33-120	09/18/14 08:49	
Phenol-d6 (S)	%	26	11-120	09/18/14 08:49	
Terphenyl-d14 (S)	%	95	45-120	09/18/14 08:49	

LABORATORY CONTROL SAMPLE: 1443999

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.6	73	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.6	61	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	27.1	54	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	52.5	105	40-133	
Hexachloro-1,3-butadiene	ug/L	50	33.4	67	44-116	
Hexachlorocyclopentadiene	ug/L	100	44.1	44	24-120	
Hexachloroethane	ug/L	50	30.5	61	43-113	
Naphthalene	ug/L	50	37.3	75	48-120	
Nitrobenzene	ug/L	50	39.8	80	48-120	
Pentachlorophenol	ug/L	50	53.4	107	47-120	
Phenol	ug/L	50	14.4	29	16-112	
2,4,6-Tribromophenol (S)	%			101	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			103	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 T1-008
Pace Project No.: 60178120

MATRIX SPIKE SAMPLE: 1444000

Parameter	Units	60178066001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	43.6	87	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	50.0	100	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	41.4	83	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	50	37.0	74	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	53.6	107	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	41.2	82	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	52.1	52	11-120	
Hexachloroethane	ug/L	ND	50	48.6	97	40-113	
Naphthalene	ug/L	ND	50	42.9	86	45-120	
Nitrobenzene	ug/L	ND	50	45.7	91	38-120	
Pentachlorophenol	ug/L	ND	50	56.3	113	43-135	
Phenol	ug/L	ND	50	22.2	44	13-112	
2,4,6-Tribromophenol (S)	%				104	39-120	
2-Fluorobiphenyl (S)	%				98	39-120	
2-Fluorophenol (S)	%				59	17-120	
Nitrobenzene-d5 (S)	%				91	33-120	
Phenol-d6 (S)	%				38	11-120	
Terphenyl-d14 (S)	%				105	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 T1-008
Pace Project No.: 60178120

QC Batch: WET/50391 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178120001

METHOD BLANK: 1446009 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/18/14 14:35	

LABORATORY CONTROL SAMPLE: 1446010

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.2	100	78-114	

MATRIX SPIKE SAMPLE: 1446012

Parameter	Units	50103606001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	228	40.4	332	256	78-114	M1

SAMPLE DUPLICATE: 1446011

Parameter	Units	60177671001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.3J		18	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: WET/50392 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178120001

METHOD BLANK: 1446019 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/18/14 14:43	

LABORATORY CONTROL SAMPLE: 1446020

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

MATRIX SPIKE SAMPLE: 1446022

Parameter	Units	50103606001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	77.8	20.2	138	297	64-132	M1

SAMPLE DUPLICATE: 1446021

Parameter	Units	60177671001 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

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: WET/50379
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178120001

METHOD BLANK: 1445601
Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/18/14 09:41	

SAMPLE DUPLICATE: 1445602

Parameter	Units	10281402003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3680	3460	6	10	

SAMPLE DUPLICATE: 1445603

Parameter	Units	60178120001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4640	4480	4	10	

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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 T1-008
Pace Project No.: 60178120

QC Batch: WET/50413
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178120001

SAMPLE DUPLICATE: 1447127

Parameter	Units	60177937001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: WET/50349 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178120001

METHOD BLANK: 1444734 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/23/14 08:47	

LABORATORY CONTROL SAMPLE: 1444735

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	203	102	85-115	

SAMPLE DUPLICATE: 1444736

Parameter	Units	60178128002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	787	769	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178120001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60178120001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 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 T1-008
Pace Project No.: 60178120

QC Batch: WETA/31094 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60178120001

METHOD BLANK: 1447430 Matrix: Water
Associated Lab Samples: 60178120001

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

LABORATORY CONTROL SAMPLE: 1447431

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.6	107	90-110	

MATRIX SPIKE SAMPLE: 1447432

Parameter	Units	60177688001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	944	500	1400	92	90-110	

MATRIX SPIKE SAMPLE: 1447434

Parameter	Units	60178120001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	16500	12500	27500	88	90-110	M1

SAMPLE DUPLICATE: 1447433

Parameter	Units	60177762001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	1580	1300	20	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-008
Pace Project No.: 60178120

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178120001	**T1-008**	EPA 200.7	MPRP/28956	EPA 200.7	ICP/21817
60178120001	**T1-008**	EPA 200.7	MPRP/28973	EPA 200.7	ICP/21815
60178120001	**T1-008**	EPA 245.1	MERP/8823	EPA 245.1	MERC/8787
60178120001	**T1-008**	EPA 245.1	MERP/8829	EPA 245.1	MERC/8788
60178120001	**T1-008**	EPA 625	OEXT/46161	EPA 625	MSSV/14831
60178120001	**T1-008**	EPA 624 Low	MSV/64484		
60178120002	**TRIP BLANK**	EPA 624 Low	MSV/64484		
60178120001	**T1-008**	EPA 1664A	WET/50391		
60178120001	**T1-008**	EPA 1664A	WET/50392		
60178120001	**T1-008**	SM 2540D	WET/50379		
60178120001	**T1-008**	SM 4500-H+B	WET/50413		
60178120001	**T1-008**	SM 5210B	WET/50349	SM 5210B	WET/50443
60178120001	**T1-008**	EPA 350.1	WETA/31084		
60178120001	**T1-008**	EPA 410.4	WETA/31094		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60178120

60178120

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: 1.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: CW 9-17-14

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~~ CW 9-17 ☐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	original pH 6.0 added 2.5 mL HNO_3
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	Final pH 4.0 BP3N
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: CW Lot # of added preservative: 1513-23-2 12787-19-8
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Current		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: ND

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AEB Date: 9/17/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

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)	6017581120
1	TI-008 5(DG9U)	OT	G	9/16/14	949				~~15~~	10	4	1	0	2	(BP2U)				X	X	X	X	X	X	X	X	X	X	X	BP3S		BP3N BP3U 3(AG3U) 1(AG4U)
2	TRIP BLANK								2	2																X					2(DG9U)
3																															
4																															
5																															
6																														METALS LIST total & LF Dis:	
7																														Al,Sb,As,Be,Cd,Cr,	
8																														Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																														and Mercury	
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	9-16-14	13:15		9-16-14	13:15	~~H~~	CW 9-17-14		
SITE ADDRESS: BRIDGETON LF										
13570 ST. CHARLES ROCK RD				CA White PACE	9-17-14	0925	1.2	Y	Y	Y
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: 9/16/14				

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

September 24, 2014

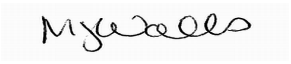
DEREK BOUCHARD
REPUBLIC SERVICES
13570 ST CHARLES ROCK RD
Bridgeton, MO 63044

RE: Project: BRIDGETON 4337
Pace Project No.: 60178133

Dear DEREK BOUCHARD:
Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures

cc: KEVIN KAMP, CEC

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

CERTIFICATIONS

Project: BRIDGETON 4337
Pace Project No.: 60178133

New Orleans Certification IDs
California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Oklahoma Department of Environmental Quality: 2010-139
Oregon Environmental Laboratory Accreditation: LA200001
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Washington Department of Ecology: C2078

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

Dallas Certification IDs:
400 West Bethany Dr Suite 190 75013 Allen TX 75013
Texas Certification #: T104704232-13-5
Kansas Certification #: E-10388
Arkansas Certification #: 88-0647
Oklahoma Certification #: 2012-080
Louisiana Certification #: 02007

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SAMPLE SUMMARY

Project: BRIDGETON 4337
Pace Project No.: 60178133

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178133001	**SLUDGE TRUCK-2**	Solid	09/16/14 10:30	09/17/14 02:25
60178133002	**SLUDGE TRUCK-2**	Solid	09/16/14 10:00	09/17/14 02:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON 4337
Pace Project No.: 60178133

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60178133001	**SLUDGE TRUCK-2**	EPA 8081	TA	9	PASI-D
		EPA 8151	PMS	3	PASI-D
		EPA 6010	NDJ	7	PASI-K
		EPA 7470	ZBM	1	PASI-K
		EPA 8270	JMT	18	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	JML	1	PASI-K
		SW-846 7.3.4.2	LJL	1	PASI-N
		EPA 9045	JML	1	PASI-K
		EPA 9095	AJM	1	PASI-K
		ASTM D92	JML	1	PASI-K
		EPA 300.0	OL	1	PASI-K
		SW-846 7.3.3.2	SMS2	1	PASI-N
		EPA 9023	JRP	1	PASI-N
		EPA 9065	SMS2	1	PASI-N
60178133002	**SLUDGE TRUCK-2**	EPA 8082	JDH	8	PASI-K
		EPA 8260	JKL	13	PASI-K
		ASTM D2974	DWC	1	PASI-K

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178133

Sample: SLUDGE TRUCK-2 **Lab ID: 60178133001** Collected: 09/16/14 10:30 Received: 09/17/14 02:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP	Analytical Method: EPA 8081 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 09/18/14 17:20							
gamma-BHC (Lindane)	ND	mg/L	0.000010	1	09/19/14 15:00	09/22/14 14:21	58-89-9	
Chlordane (Technical)	ND	mg/L	0.00010	1	09/19/14 15:00	09/22/14 14:21	57-74-9	
Endrin	ND	mg/L	0.000010	1	09/19/14 15:00	09/22/14 14:21	72-20-8	
Heptachlor	ND	mg/L	0.000010	1	09/19/14 15:00	09/22/14 14:21	76-44-8	
Heptachlor epoxide	ND	mg/L	0.000010	1	09/19/14 15:00	09/22/14 14:21	1024-57-3	
Methoxychlor	ND	mg/L	0.000010	1	09/19/14 15:00	09/22/14 14:21	72-43-5	
Toxaphene	ND	mg/L	0.00030	1	09/19/14 15:00	09/22/14 14:21	8001-35-2	
Surrogates								
Decachlorobiphenyl (S)	92	%.	40-140	1	09/19/14 15:00	09/22/14 14:21	2051-24-3	
Tetrachloro-m-xylene (S)	67	%.	40-140	1	09/19/14 15:00	09/22/14 14:21	877-09-8	
8151 Chlorinate Herbicide TCLP	Analytical Method: EPA 8151 Preparation Method: EPA 8151							
	Leachate Method/Date: EPA 1311; 09/18/14 17:20							
2,4-D	ND	mg/L	0.00050	1	09/19/14 17:00	09/22/14 14:00	94-75-7	
2,4,5-TP (Silvex)	ND	mg/L	0.00050	1	09/19/14 17:00	09/22/14 14:00	93-72-1	
Surrogates								
2,4-DCAA (S)	170	%.	40-140	1	09/19/14 17:00	09/22/14 14:00	19719-28-9	S3
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Leachate Method/Date: EPA 1311; 09/17/14 00:00							
Arsenic	ND	mg/L	0.50	1	09/18/14 11:40	09/19/14 12:33	7440-38-2	
Barium	ND	mg/L	2.5	1	09/18/14 11:40	09/19/14 12:33	7440-39-3	
Cadmium	ND	mg/L	0.050	1	09/18/14 11:40	09/19/14 12:33	7440-43-9	
Chromium	ND	mg/L	0.10	1	09/18/14 11:40	09/19/14 12:33	7440-47-3	
Lead	ND	mg/L	0.50	1	09/18/14 11:40	09/19/14 12:33	7439-92-1	
Selenium	ND	mg/L	0.50	1	09/18/14 11:40	09/19/14 12:33	7782-49-2	
Silver	ND	mg/L	0.10	1	09/18/14 11:40	09/19/14 12:33	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Leachate Method/Date: EPA 1311; 09/17/14 00:00							
Mercury	ND	mg/L	0.0020	1	09/18/14 17:30	09/19/14 11:19	7439-97-6	
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 09/18/14 10:22							
1,4-Dichlorobenzene	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	106-46-7	
2,4-Dinitrotoluene	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	121-14-2	
Hexachloro-1,3-butadiene	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	87-68-3	
Hexachlorobenzene	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	118-74-1	
Hexachloroethane	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	200	1	09/18/14 00:00	09/19/14 11:20		
Nitrobenzene	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/18/14 00:00	09/19/14 11:20	87-86-5	
Pyridine	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	500	1	09/18/14 00:00	09/19/14 11:20	95-95-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178133

Sample: SLUDGE TRUCK-2 **Lab ID: 60178133001** Collected: 09/16/14 10:30 Received: 09/17/14 02:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 09/18/14 10:22							
2,4,6-Trichlorophenol	ND	ug/L	100	1	09/18/14 00:00	09/19/14 11:20	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	106	%	44-120	1	09/18/14 00:00	09/19/14 11:20	4165-60-0	
2-Fluorobiphenyl (S)	91	%	49-120	1	09/18/14 00:00	09/19/14 11:20	321-60-8	
Terphenyl-d14 (S)	98	%	52-122	1	09/18/14 00:00	09/19/14 11:20	1718-51-0	
Phenol-d6 (S)	76	%	36-120	1	09/18/14 00:00	09/19/14 11:20	13127-88-3	
2-Fluorophenol (S)	68	%	37-120	1	09/18/14 00:00	09/19/14 11:20	367-12-4	
2,4,6-Tribromophenol (S)	101	%	36-128	1	09/18/14 00:00	09/19/14 11:20	118-79-6	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**77.7**	%	0.50	1		09/19/14 00:00		
2540G Total Percent Solids	Analytical Method: SM 2540G							
Total Solids	**22.3**	%	0.10	1		09/22/14 15:39		
Reactive Sulfide	Analytical Method: SW-846 7.3.4.2 Preparation Method: SW-846 7.3.4.2							
Sulfide, Reactive	ND	mg/kg	50.0	1	09/22/14 11:32	09/22/14 14:38		
9045 pH Soil	Analytical Method: EPA 9045							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/23/14 16:00		H1
9095 Paint Filter Liquid Test	Analytical Method: EPA 9095							
Free Liquids	**negative**			1		09/18/14 09:30		
Flashpoint, Open Cup	Analytical Method: ASTM D92							
Flashpoint	**>210**	deg F		1		09/23/14 14:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Sulfate	**793**	mg/kg	450	10	09/21/14 10:00	09/21/14 15:38	14808-79-8	
733C S Reactive Cyanide	Analytical Method: SW-846 7.3.3.2 Preparation Method: SW-846 7.3.3.2							
Cyanide, Reactive	ND	mg/kg	25.0	1	09/22/14 11:34	09/22/14 13:00		
9023 Ext. Organic Halides EOX	Analytical Method: EPA 9023 Preparation Method: EPA 9023							
Extractable Organic Halogens	ND	mg/kg	234	1	09/19/14 09:00	09/19/14 11:41		
9065 Phenolics, Total	Analytical Method: EPA 9065 Preparation Method: EPA 9065							
Phenolics, Total Recoverable	**11.9**	mg/kg	0.64	1	09/24/14 11:37	09/24/14 12:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178133

Sample: SLUDGE TRUCK-2 **Lab ID: 60178133002** Collected: 09/16/14 10:00 Received: 09/17/14 02:25 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB SW	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/kg	1630	1	09/18/14 00:00	09/20/14 10:44	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	53469-21-9	
PCB-1248 (Aroclor 1248)	**6420**	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/kg	814	1	09/18/14 00:00	09/20/14 10:44	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	85	%	38-119	1	09/18/14 00:00	09/20/14 10:44	2051-24-3	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 09/17/14 00:00							
Benzene	ND	ug/L	50.0	1		09/19/14 16:25	71-43-2	
2-Butanone (MEK)	ND	ug/L	1000	1		09/19/14 16:25	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	1		09/19/14 16:25	56-23-5	
Chlorobenzene	ND	ug/L	50.0	1		09/19/14 16:25	108-90-7	
Chloroform	ND	ug/L	200	1		09/19/14 16:25	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	1		09/19/14 16:25	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	1		09/19/14 16:25	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	1		09/19/14 16:25	127-18-4	
Trichloroethene	ND	ug/L	50.0	1		09/19/14 16:25	79-01-6	
Vinyl chloride	ND	ug/L	20.0	1		09/19/14 16:25	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		09/19/14 16:25	17060-07-0	
Toluene-d8 (S)	111	%	80-120	1		09/19/14 16:25	2037-26-5	
4-Bromofluorobenzene (S)	95	%	80-120	1		09/19/14 16:25	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**76.0**	%	0.50	1		09/19/14 00:00		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: MERP/8817
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 60178133001

METHOD BLANK: 1445005 Matrix: Water
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	09/19/14 11:03	

LABORATORY CONTROL SAMPLE: 1445006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.015	0.016	107	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445007 1445008

Parameter	Units	10281486001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.015	.015	0.017	0.017	110	114	75-125	4	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: MPRP/28966
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 60178133001

METHOD BLANK: 1444926 Matrix: Water
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	09/19/14 11:44	
Barium	mg/L	ND	2.5	09/19/14 11:44	
Cadmium	mg/L	ND	0.050	09/19/14 11:44	
Chromium	mg/L	ND	0.10	09/19/14 11:44	
Lead	mg/L	ND	0.50	09/19/14 11:44	
Selenium	mg/L	ND	0.50	09/19/14 11:44	
Silver	mg/L	ND	0.10	09/19/14 11:44	

LABORATORY CONTROL SAMPLE: 1444927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	1.0	102	80-120	
Barium	mg/L	1	1.0	105	80-120	
Cadmium	mg/L	1	1.0	103	80-120	
Chromium	mg/L	1	1.0	103	80-120	
Lead	mg/L	1	1.0	100	80-120	
Selenium	mg/L	1	0.99	99	80-120	
Silver	mg/L	.5	0.48	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444928 1444929

Parameter	Units	10281486001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	10.6	10.6	106	106	75-125	0	20	
Barium	mg/L	ND	10	10	10.4	10.5	102	103	75-125	1	20	
Cadmium	mg/L	ND	10	10	10.3	10.4	103	103	75-125	0	20	
Chromium	mg/L	ND	10	10	10.0	10.0	100	100	75-125	0	20	
Lead	mg/L	ND	10	10	9.5	9.6	95	96	75-125	0	20	
Selenium	mg/L	ND	10	10	10.3	10.4	103	104	75-125	1	20	
Silver	mg/L	ND	5	5	4.9	4.9	97	97	75-125	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: MSV/64510
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60178133002

METHOD BLANK: 1445751 Matrix: Water
Associated Lab Samples: 60178133002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/19/14 16:10	
1,2-Dichloroethane	ug/L	ND	50.0	09/19/14 16:10	
2-Butanone (MEK)	ug/L	ND	1000	09/19/14 16:10	
Benzene	ug/L	ND	50.0	09/19/14 16:10	
Carbon tetrachloride	ug/L	ND	50.0	09/19/14 16:10	
Chlorobenzene	ug/L	ND	50.0	09/19/14 16:10	
Chloroform	ug/L	ND	200	09/19/14 16:10	
Tetrachloroethene	ug/L	ND	50.0	09/19/14 16:10	
Trichloroethene	ug/L	ND	50.0	09/19/14 16:10	
Vinyl chloride	ug/L	ND	20.0	09/19/14 16:10	
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/19/14 16:10	
4-Bromofluorobenzene (S)	%	97	80-120	09/19/14 16:10	
Toluene-d8 (S)	%	109	80-120	09/19/14 16:10	

LABORATORY CONTROL SAMPLE: 1445752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1110	111	78-126	
1,2-Dichloroethane	ug/L	1000	1040	104	77-123	
2-Butanone (MEK)	ug/L	5000	5040	101	52-145	
Benzene	ug/L	1000	1090	109	80-120	
Carbon tetrachloride	ug/L	1000	1200	120	78-128	
Chlorobenzene	ug/L	1000	1030	103	80-120	
Chloroform	ug/L	1000	1050	105	79-120	
Tetrachloroethene	ug/L	1000	1120	112	80-121	
Trichloroethene	ug/L	1000	1090	109	80-120	
Vinyl chloride	ug/L	1000	1040	104	59-120	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1445753

Parameter	Units	60178133002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	962	96	60-144	
1,2-Dichloroethane	ug/L	ND	1000	1020	102	49-148	
2-Butanone (MEK)	ug/L	ND	5000	4950	98	36-145	
Benzene	ug/L	ND	1000	1040	104	37-157	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

MATRIX SPIKE SAMPLE: 1445753

Parameter	Units	60178133002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	1000	1100	110	68-142	
Chlorobenzene	ug/L	ND	1000	947	95	66-133	
Chloroform	ug/L	ND	1000	1130	113	66-127	
Tetrachloroethene	ug/L	ND	1000	1030	103	69-133	
Trichloroethene	ug/L	ND	1000	1050	105	61-135	
Vinyl chloride	ug/L	ND	1000	917	92	44-128	
1,2-Dichloroethane-d4 (S)	%				97	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				110	80-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: OEXT/4651
QC Batch Method: EPA 3510
Analysis Method: EPA 8081
Analysis Description: 8081 GCS TCLP Pesticides
Associated Lab Samples: 60178133001

METHOD BLANK: 97222 Matrix: Water
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.000010	09/22/14 11:40	
Endrin	mg/L	ND	0.0000010	09/22/14 11:40	
gamma-BHC (Lindane)	mg/L	ND	0.0000010	09/22/14 11:40	
Heptachlor	mg/L	ND	0.0000010	09/22/14 11:40	
Heptachlor epoxide	mg/L	ND	0.0000010	09/22/14 11:40	
Methoxychlor	mg/L	ND	0.0000010	09/22/14 11:40	
Toxaphene	mg/L	ND	0.000030	09/22/14 11:40	
Decachlorobiphenyl (S)	%.	101	40-140	09/22/14 11:40	
Tetrachloro-m-xylene (S)	%.	79	40-140	09/22/14 11:40	

LABORATORY CONTROL SAMPLE: 97223

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlordane (Technical)	mg/L		ND			
Endrin	mg/L	.001	0.0010	101	40-140	
gamma-BHC (Lindane)	mg/L	.001	0.00098	98	40-140	
Heptachlor	mg/L	.001	0.00082	82	40-140	
Heptachlor epoxide	mg/L	.001	0.0010	102	40-140	
Methoxychlor	mg/L	.001	0.00098	98	40-140	
Toxaphene	mg/L		ND			
Decachlorobiphenyl (S)	%.			89	40-140	
Tetrachloro-m-xylene (S)	%.			76	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 97224 97225

Parameter	Units	7518966001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlordane (Technical)	mg/L	ND			ND	ND					40	
Endrin	mg/L	ND	.01	.01	0.010	0.0099	104	99	40-140	5	40	
gamma-BHC (Lindane)	mg/L	ND	.01	.01	0.0097	0.0096	97	96	40-140	1	40	
Heptachlor	mg/L	ND	.01	.01	0.0081	0.0079	81	79	40-140	2	40	
Heptachlor epoxide	mg/L	ND	.01	.01	0.010	0.0095	100	95	40-140	5	40	
Methoxychlor	mg/L	ND	.01	.01	0.0096	0.0096	96	96	40-140	0	40	
Toxaphene	mg/L	ND			ND	ND					40	
Decachlorobiphenyl (S)	%.						99	95	40-140			
Tetrachloro-m-xylene (S)	%.						73	76	40-140			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: OEXT/46184
QC Batch Method: EPA 3546
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Associated Lab Samples: 60178133002

METHOD BLANK: 1444778 Matrix: Solid
Associated Lab Samples: 60178133002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1221 (Aroclor 1221)	ug/kg	ND	66.0	09/20/14 10:09	
PCB-1232 (Aroclor 1232)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1242 (Aroclor 1242)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1248 (Aroclor 1248)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1254 (Aroclor 1254)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1260 (Aroclor 1260)	ug/kg	ND	33.0	09/20/14 10:09	
Decachlorobiphenyl (S)	%	87	38-119	09/20/14 10:09	

LABORATORY CONTROL SAMPLE: 1444779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	167	193	116	71-122	
PCB-1260 (Aroclor 1260)	ug/kg	167	193	116	75-117	
Decachlorobiphenyl (S)	%			102	38-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444780 1444781

Parameter	Units	40103405004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<44.5	183	174	656	867	359	498	20-160	28	35	M1
PCB-1260 (Aroclor 1260)	ug/kg	<36.5	183	174	283J	287J	155	165	17-160		34	M1
Decachlorobiphenyl (S)	%						0	0	38-119			S4

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: OEXT/4648
QC Batch Method: EPA 8151
Analysis Method: EPA 8151
Analysis Description: 8151 GCS TCLP Herbicides
Associated Lab Samples: 60178133001

METHOD BLANK: 97187 Matrix: Water
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.000050	09/22/14 11:54	
2,4-D	mg/L	ND	0.000050	09/22/14 11:54	
2,4-DCAA (S)	%.	114	40-140	09/22/14 11:54	

LABORATORY CONTROL SAMPLE: 97188

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.002	0.0021	104	10-140	
2,4-D	mg/L	.002	0.0021	107	40-140	
2,4-DCAA (S)	%.			117	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 97189 97190

Parameter	Units	7518768003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	.02	.02	0.025	0.025	125	123	10-140	1	40	
2,4-D	mg/L	ND	.02	.02	0.024	0.021	121	106	40-140	14	40	
2,4-DCAA (S)	%.						119	114	40-140			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: OEXT/46186
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 TCLP MSSV
Associated Lab Samples: 60178133001

METHOD BLANK: 1444933
Matrix: Water
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	09/19/14 09:57	
2,4,5-Trichlorophenol	ug/L	ND	500	09/19/14 09:57	
2,4,6-Trichlorophenol	ug/L	ND	100	09/19/14 09:57	
2,4-Dinitrotoluene	ug/L	ND	100	09/19/14 09:57	
2-Methylphenol(o-Cresol)	ug/L	ND	100	09/19/14 09:57	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	09/19/14 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	100	09/19/14 09:57	
Hexachlorobenzene	ug/L	ND	100	09/19/14 09:57	
Hexachloroethane	ug/L	ND	100	09/19/14 09:57	
Nitrobenzene	ug/L	ND	100	09/19/14 09:57	
Pentachlorophenol	ug/L	ND	500	09/19/14 09:57	
Pyridine	ug/L	ND	100	09/19/14 09:57	
2,4,6-Tribromophenol (S)	%	82	36-128	09/19/14 09:57	
2-Fluorobiphenyl (S)	%	87	49-120	09/19/14 09:57	
2-Fluorophenol (S)	%	55	37-120	09/19/14 09:57	
Nitrobenzene-d5 (S)	%	80	44-120	09/19/14 09:57	
Phenol-d6 (S)	%	55	36-120	09/19/14 09:57	
Terphenyl-d14 (S)	%	98	52-122	09/19/14 09:57	

LABORATORY CONTROL SAMPLE: 1444934

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	373	75	47-120	
2,4,5-Trichlorophenol	ug/L	500	479J	96	51-124	
2,4,6-Trichlorophenol	ug/L	500	451	90	46-120	
2,4-Dinitrotoluene	ug/L	500	398	80	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	391	78	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	789	79	41-120	
Hexachloro-1,3-butadiene	ug/L	500	364	73	49-120	
Hexachlorobenzene	ug/L	500	413	83	50-120	
Hexachloroethane	ug/L	500	378	76	38-120	
Nitrobenzene	ug/L	500	418	84	49-120	
Pentachlorophenol	ug/L	500	435J	87	35-125	
Pyridine	ug/L	500	258	52	10-120	
2,4,6-Tribromophenol (S)	%			80	36-128	
2-Fluorobiphenyl (S)	%			85	49-120	
2-Fluorophenol (S)	%			67	37-120	
Nitrobenzene-d5 (S)	%			85	44-120	
Phenol-d6 (S)	%			69	36-120	
Terphenyl-d14 (S)	%			99	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

MATRIX SPIKE SAMPLE: 1444935

Parameter	Units	60178023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	375	75	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	553	111	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	507	101	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	411	82	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	414	83	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	797	80	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	387	77	49-120	
Hexachlorobenzene	ug/L	ND	500	405	81	53-120	
Hexachloroethane	ug/L	ND	500	388	78	38-120	
Nitrobenzene	ug/L	ND	500	423	85	51-120	
Pentachlorophenol	ug/L	ND	500	455J	91	34-131	
Pyridine	ug/L	ND	500	218	44	10-120	
2,4,6-Tribromophenol (S)	%				83	36-128	
2-Fluorobiphenyl (S)	%				85	49-120	
2-Fluorophenol (S)	%				56	37-120	
Nitrobenzene-d5 (S)	%				88	44-120	
Phenol-d6 (S)	%				69	36-120	
Terphenyl-d14 (S)	%				101	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: PMST/10036
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60178133001, 60178133002

METHOD BLANK: 1445589
Matrix: Solid
Associated Lab Samples: 60178133001, 60178133002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	09/19/14 00:00	

SAMPLE DUPLICATE: 1445590

Parameter	Units	10281486001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.3	13.3	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WET/50426
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: 2540G Total Solids
Associated Lab Samples: 60178133001

METHOD BLANK: 1447258 Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	%	ND	0.10	09/22/14 15:39	

SAMPLE DUPLICATE: 1447261

Parameter	Units	60178316005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	6.4	6.5	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WET/3558 Analysis Method: SW-846 7.3.4.2
QC Batch Method: SW-846 7.3.4.2 Analysis Description: Reactive Sulfide
Associated Lab Samples: 60178133001

METHOD BLANK: 53399 Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Reactive	mg/kg	ND	50.0	09/22/14 14:38	

LABORATORY CONTROL SAMPLE: 53400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	500	441	88	1-110	

MATRIX SPIKE SAMPLE: 53402

Parameter	Units	209360001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	ND	500	441	84	1-110	

SAMPLE DUPLICATE: 53401

Parameter	Units	209360001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Reactive	mg/kg	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WET/50453
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Associated Lab Samples: 60178133001

SAMPLE DUPLICATE: 1447854

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	3	H1

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WET/50348
QC Batch Method: EPA 9095
Analysis Method: EPA 9095
Analysis Description: 9095 PAINT FILTER LIQUID TEST
Associated Lab Samples: 60178133001

SAMPLE DUPLICATE: 1444733

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
Free Liquids		negative	negative			

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WETA/31080 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60178133001

METHOD BLANK: 1447024 Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	99.6	09/21/14 14:41	

LABORATORY CONTROL SAMPLE: 1447025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	499	481	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447026 1447027

Parameter	Units	60178133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	793	2260	2270	3020	3040	99	99	80-120	1	15	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WETA/3101
QC Batch Method: SW-846 7.3.3.2
Analysis Method: SW-846 7.3.3.2
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 60178133001

METHOD BLANK: 53405 Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/kg	ND	25.0	09/22/14 13:00	

LABORATORY CONTROL SAMPLE: 53406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	100	ND	10	1-110	

MATRIX SPIKE SAMPLE: 53408

Parameter	Units	209360001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	ND	100	ND	0	1-110	M1

SAMPLE DUPLICATE: 53407

Parameter	Units	209360001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide, Reactive	mg/kg	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WETA/3075
QC Batch Method: EPA 9023
Analysis Method: EPA 9023
Analysis Description: 9023 Extractable Organic Halides EOX
Associated Lab Samples: 60178133001

METHOD BLANK: 52317
Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Extractable Organic Halogens	mg/kg	ND	47.8	09/19/14 11:02	

LABORATORY CONTROL SAMPLE: 52318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Extractable Organic Halogens	mg/kg	966	822	85	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52319 52320

Parameter	Units	60178133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Extractable Organic Halogens	mg/kg	ND	4620	4530	4390	4000	93	86	75-125	9	20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178133

QC Batch: WETA/3133
QC Batch Method: EPA 9065
Analysis Method: EPA 9065
Analysis Description: 9065 Phenolics
Associated Lab Samples: 60178133001

METHOD BLANK: 54334 Matrix: Solid
Associated Lab Samples: 60178133001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/kg	ND	0.15	09/24/14 12:47	

LABORATORY CONTROL SAMPLE: 54335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/kg	2.5	2.6	104	80-120	

SAMPLE DUPLICATE: 54336

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phenolics, Total Recoverable	mg/kg	11.9	11.6	3	20	

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QUALIFIERS

Project: BRIDGETON 4337
Pace Project No.: 60178133

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.

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TNI - The NELAC Institute.

LABORATORIES

PASI-D	Pace Analytical Services - Dallas
PASI-K	Pace Analytical Services - Kansas City
PASI-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON 4337
Pace Project No.: 60178133

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178133001	**SLUDGE TRUCK-2**	EPA 3510	OEXT/4651	EPA 8081	GCSV/2980
60178133002	**SLUDGE TRUCK-2**	EPA 3546	OEXT/46184	EPA 8082	GCSV/17631
60178133001	**SLUDGE TRUCK-2**	EPA 8151	OEXT/4648	EPA 8151	GCSV/2979
60178133001	**SLUDGE TRUCK-2**	EPA 3010	MPRP/28966	EPA 6010	ICP/21818
60178133001	**SLUDGE TRUCK-2**	EPA 7470	MERP/8817	EPA 7470	MERC/8772
60178133001	**SLUDGE TRUCK-2**	EPA 3510	OEXT/46186	EPA 8270	MSSV/14836
60178133002	**SLUDGE TRUCK-2**	EPA 8260	MSV/64510		
60178133001	**SLUDGE TRUCK-2**	ASTM D2974	PMST/10036		
60178133002	**SLUDGE TRUCK-2**	ASTM D2974	PMST/10036		
60178133001	**SLUDGE TRUCK-2**	SM 2540G	WET/50426		
60178133001	**SLUDGE TRUCK-2**	SW-846 7.3.4.2	WET/3558	SW-846 7.3.4.2	WET/3566
60178133001	**SLUDGE TRUCK-2**	EPA 9045	WET/50453		
60178133001	**SLUDGE TRUCK-2**	EPA 9095	WET/50348		
60178133001	**SLUDGE TRUCK-2**	ASTM D92	WET/50447		
60178133001	**SLUDGE TRUCK-2**	EPA 300.0	WETA/31080	EPA 300.0	WETA/31081
60178133001	**SLUDGE TRUCK-2**	SW-846 7.3.3.2	WETA/3101	SW-846 7.3.3.2	WETA/3105
60178133001	**SLUDGE TRUCK-2**	EPA 9023	WETA/3075	EPA 9023	WETA/3084
60178133001	**SLUDGE TRUCK-2**	EPA 9065	WETA/3068	EPA 9065	WETA/3077
60178133001	**SLUDGE TRUCK-2**	EPA 9065	WETA/3133	EPA 9065	WETA/3143

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Sample Condition Upon Receipt

WO# : 60178133

60178133

Client Name: Republic Services

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 lc

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

Cooler Temperature: 1.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: AKB 9/17/14

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 9/17/14
Rush Turn Around Time requested:	☑Yes ☐No ☐N/A	7. ASAP
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: SL	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☐Yes ☐No ☑N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State: MD

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: 9/17/14

Pace Analytical
www.pacelabs.com

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:	Republic Services
Address:	13570 St. Charles Rock Rd
	Bridgeton, MO 63044
Email To:	dbouchard@republicservices.com
Phone: 314-302-3634	Fax:
Requested Due Date/TAT:	ASAP

Section B Required Project Information:

Report To:	Derek Bouchard
Copy To:	Kevin Kamp (kkamp@cecinc.com)
Purchase Order No.:	
Project Name:	BRIDGETON
Project Number:	4337

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 #:	

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	TCLP RCRA 8	TCLP SVOCs	TCLP Herbicides	TCLP Pesticides	Reactive Cyanide/Sulfide	Flashpoint	EOX	Paint Filter, pH, % Solids	Phenol	TCLP VOCs	PCBs EPA 8082	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 60178133
1	SLUDGE TRUCK-2		C	9/16	10AM	9/16	10:30AM		4	4									X	X	X	X	X	X	X	X	X			4WGTK a1
2	SLUDGE TRUCK-2		G	9/16	10AM				1	1																	X	X		1WGK a2
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		9/16/14	1700	PACE	9/17/14	0225	1-2	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Michael Keen

SIGNATURE of SAMPLER: _____ DATE Signed (MM/DD/YY): 09-16-2014

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

Pace Analytical®
www.pacelabs.com

Workorder: 60178133 **Workorder Name:** BRIDGETON TRUCK 4337 **Owner Received Date:** 9/17/2014 **Results Requested By:** 9/22/2014

Report To	Subcontract To
Angie Brown Pace Analytical Services, Inc. 9608 Loiret Blvd. Lenexa, KS 66219 Phone (913)599-5665 Fax (913)599-1759	Pace Analytical Dallas 400 West Bethany Drive Suite 190 Allen, TX 75013 Phone (972)727-1123

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	none						TCLP PEST	TCLP HERB											LAB USE ONLY
1	SLUDGE TRUCK-2	PS	9/16/2014 10:30	60178133001	Solid	1						X	X											001
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	9/17/14 FED	Thomas Doan	9-18-14/0910
2				
3				

Comments: Send Leachate

Cooler Temperature on Receipt 2.4 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

FED 1

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO# : 7518962

7518962

Pace Analytical

Sample Condition Upon Receipt
Dallas

Client Name: Pace Kansas Project Work order: 7518962

Courier: FedEX ☑ UPS ☐ USPS ☐ Client ☐ Courier ☐ LSO ☐ PACE ☐ Other: _____

Tracking#: 6113 5280 2997

Custody Seal on Cooler/Box: Yes ☑ No ☐ **Seals Intact:** Yes ☑ No ☐ NA ☐

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

Thermometer Used: IR-01 Type of Ice: Wet ☑ Blue ☐ None ☐ Sample Received on ice, cooling process has begun ☑

Cooler Temp: 2.4 (Temp should be above freezing to 6°C)

Chain of Custody Present	Yes ☑ No ☐ NA ☐	1
Chain of Custody filled out	Yes ☑ No ☐ NA ☐	2
Chain of Custody relinquished	Yes ☑ No ☐ NA ☐	3
Sampler name & signature on COC	Yes ☐ No ☑ NA ☐	4
Sample received within HT	Yes ☑ No ☐ NA ☐	5
Short HT analyses (<72 hrs)	Yes ☐ No ☑ NA ☐	6
Rush TAT requested	Yes ☑ No ☐ NA ☐	7
Sufficient Volume received	Yes ☑ No ☐ NA ☐	8
Correct Container used Pace Container used	Yes ☑ No ☐ NA ☐ Yes ☑ No ☐ NA ☐	9
Container Intact	Yes ☑ No ☐ NA ☐	10
Unpreserved 5035A soil frozen within 48 hrs	Yes ☐ No ☐ NA ☑	11
Filtered volume received for Dissolved tests	Yes ☐ No ☐ NA ☑	12
Sample labels match COC Include date/time/ID/analyses Matrix: Solid	Yes ☑ No ☐ NA ☐	13
All containers needing preservation have been checked	Yes ☐ No ☐ NA ☑	14a. Lot# of pH strip: _____ pH checked Yes ☐ No ☐ pH<2 ☐ pH>9 ☐ pH>12 ☐ Lot# of Iodine strip: _____ Lot# of Lead Acetate strip: _____
Do containers require preservation at the lab	Yes ☐ No ☐ NA ☑	14b. Preservation: Lot#:
All containers needing preservation are found to be in Compliance with EPA recommendation Exception: VOA, coliform, O&G	Yes ☐ No ☐ NA ☑ Yes ☐ No ☑	14c.
Trip Blank present Trip Blank Custody Seals Intact Pace Trip Blank Lot# (if purchased): _____	Yes ☐ No ☐ NA ☑ Yes ☐ No ☐ NA ☑	15
Headspace in VOA (>6mm)	Yes ☐ No ☐ NA ☑	16
Project sampled in USDA Regulated Area:	Yes ☐ No ☐ NA ☑	17. List State _____

Client Notification/Resolution/Comments:

Person Contacted: _____ Date: _____

Comments/Resolution: _____

Person Examining Contents: KW Date: 9/18/14

Pace Analytical Services - Dallas

Sample Container Count-

COC PAGE 1 of 1

COC ID# _____

Pace Project # 7518962

Sample Line Item	AG1S	AG1U	AG3S	BG1H	BG1S	BP1U	BP2N	BP2S	BP2U	BP20	SP5T	VG9H	VG9M	VG9T	VG9U	VG9W	WGFU	WGKU			
1																		1			
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Container Codes

DG9H	40mL HCL amber voa vial	AF	Air Filter	BP1N	1 liter HNO3 plastic	DG9P	40mL TSP amber vial
AG1U	1liter unpreserved amber glass	AG1H	1 liter HCL amber glass	BP1S	1 liter H2SO4 plastic	DG9S	40mL H2SO4 amber vial
WGFU	4oz clear soil jar	AG1S	1 liter H2SO4 amber glass	BP1U	1 liter unpreserved plastic	DG9T	40mL Na Thio amber vial
R	terra core kit	AG1T	1 liter Na Thiosulfate amber gl	BP1Z	1 liter NaOH, Zn, Ac	DG9U	40mL unpreserved **amber** vial
BP2N	500mL HNO3 plastic	AG2N	500mL HNO3 amber glass	BP2A	500mL NaOH, Asc Acid plastic	I	Wipe/Swab
BP2U	500mL unpreserved plastic	AG2S	500mL H2SO4 amber glass	BP2O	500mL NaOH plastic	JGFU	4oz unpreserved amber wide
BP2S	500mL H2SO4 plastic	AG2U	500mL unpreserved amber gla	BP2Z	500mL NaOH, Zn Ac	U	Summa Can
BP3N	250mL HNO3 plastic	AG3U	250mL unpreserved amber gla	BP3A	250mL NaOh, Asc Acid plastic	VG9H	40mL HCL clear vial
BP3U	250mL unpreserved plastic	BG1H	1 liter HCL clear glass	BP3C	250mL NaOH plastic	VG9T	40mL Na Thio. clear vial
BP3S	250mL H2SO4 plastic	BG1S	1 liter H2SO4 clear glass	BP3Z	250mL NaOH, Zn Ac plastic	VG9U	40mL unpreserved **clear** vial
AG3S	250mL H2SO4 glass amber	BG1T	1 liter Na Thiosulfate clear gla	C	Air Cassettes	VSG	Headspace septa vial & HCL
AG1S	1 liter H2SO4 amber glass	BG1U	1 liter unpreserved glass	DG9B	40mL Na Bisulfate amber vial	WGFX	4oz wide jar w/hexane wipe
BP1U	1 liter unpreserved plastic	BP1A	1 liter NaOH, Asc Acid plastic	DG9M	40mL MeOH clear vial	ZPLC	Ziploc Bag
WGKU	8oz wide jar upreserved	SP5T	120mL Coliform Na Thiosulfate	SP5U	120mL Coliform unpreserved	GN	General unpreserved
Other	Other						

Chain of Custody

WO# : 209559

209559

nalytical®
ww.pacelabs.com

Workorder: 60178133 **Workorder Name:** BRIDGETON TRUCK 4337 **Owner Received Date:** 9/17/2014 **Results Requested By:** 9/22/2014

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 New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: none	Requested Analysis: Phenol 9095	Reactive S & CN	TOX-EOX	LAB USE ONLY
1	SLUDGE TRUCK-2	PS	9/16/2014 10:30	60178133001	Solid	2	X	X	X	
2										
3										
4										
5										

Transfers	Released By	Date/Time	Received By	Date/Time
1	Fed Ex	9/17/14 900	Fed Ex	
2		9-18-14 900		9-18-14 900
3				

Comments

Cooler Temperature on Receipt 1.7 °C **Custody Seal** Y or N **Received on Ice** Y or N **Samples Intact** Y or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Cond

WO# : 209559

PM: KHB Due Date: 09/22/14
CLIENT: PASI-KANS PASI - Kansas

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: Wet Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 9-18-14 JMB

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☐Yes ☐No	☑N/A	1
Chain of Custody Present:	☑Yes ☐No	☐N/A	2
Chain of Custody Complete:	☑Yes ☐No	☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No	☐N/A	4
Sampler Name & Signature on COC:	☐Yes ☑No	☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No	☐N/A	6
Sufficient Volume:	☑Yes ☐No	☐N/A	7
Correct Containers Used:	☑Yes ☐No	☐N/A	8 8 oz jar
Filtered vol. Rec. for Diss. tests	☐Yes ☐No	☑N/A	9
Sample Labels match COC:	☑Yes ☐No	☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No	☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes ☐No	☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes ☐No	☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes ☐No	☑N/A	14
Trip Blank Present:	☐Yes ☑No		15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

September 25, 2014

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

RE: Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

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 T1-009
Pace Project No.: 60178223

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178223001	**T1-009**	Water	09/17/14 11:28	09/18/14 01:35
60178223002	**TRIP BLANK**	Water	09/17/14 11:28	09/18/14 01:35

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

SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178223001	**T1-009**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178223002	**TRIP BLANK**	EPA 624 Low	EAK	28

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Sample: T1-009 **Lab ID: 60178223001** Collected: 09/17/14 11:28 Received: 09/18/14 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	**4300**	ug/L	375	1	09/21/14 17:25	09/25/14 11:54	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 11:54	7440-36-0	
Arsenic	**532**	ug/L	50.0	1	09/21/14 17:25	09/25/14 11:54	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 11:54	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 11:54	7440-43-9	
Chromium	**124**	ug/L	25.0	1	09/21/14 17:25	09/25/14 11:54	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 11:54	7440-48-4	
Copper	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 11:54	7440-50-8	
Iron	**382000**	ug/L	250	1	09/21/14 17:25	09/25/14 11:54	7439-89-6	M1
Lead	**60.6**	ug/L	25.0	1	09/21/14 17:25	09/25/14 11:54	7439-92-1	
Nickel	**75.4**	ug/L	25.0	1	09/21/14 17:25	09/25/14 11:54	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 11:54	7782-49-2	
Silver	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 11:54	7440-22-4	
Thallium	ND	ug/L	100	1	09/21/14 17:25	09/25/14 11:54	7440-28-0	
Zinc	**1770**	ug/L	250	1	09/21/14 17:25	09/25/14 11:54	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	09/21/14 17:25	09/25/14 12:22	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:22	7440-36-0	
Arsenic, Dissolved	**398**	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:22	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 12:22	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:22	7440-43-9	
Chromium, Dissolved	**71.4**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:22	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:22	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:22	7440-50-8	
Iron, Dissolved	**75600**	ug/L	250	1	09/21/14 17:25	09/25/14 12:22	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:22	7439-92-1	
Nickel, Dissolved	**58.4**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:22	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 12:22	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 12:22	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/21/14 17:25	09/25/14 12:22	7440-28-0	
Zinc, Dissolved	**307**	ug/L	250	1	09/21/14 17:25	09/25/14 12:22	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/20/14 15:20	09/21/14 14:21	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	09/21/14 16:45	09/22/14 09:00	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	25.0	1	09/19/14 00:00	09/22/14 13:47	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	77-47-4	
Hexachloroethane	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1	09/19/14 00:00	09/22/14 13:47	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	20.0	1	09/19/14 00:00	09/22/14 13:47		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Sample: T1-009 **Lab ID: 60178223001** Collected: 09/17/14 11:28 Received: 09/18/14 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	5.0	1	09/19/14 00:00	09/22/14 13:47	91-20-3	
Nitrobenzene	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	98-95-3	
Pentachlorophenol	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	87-86-5	
Phenol	**18.7**	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	5.0	1	09/19/14 00:00	09/22/14 13:47	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	81	%	33-120	1	09/19/14 00:00	09/22/14 13:47	4165-60-0	
2-Fluorobiphenyl (S)	74	%	39-120	1	09/19/14 00:00	09/22/14 13:47	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	1	09/19/14 00:00	09/22/14 13:47	1718-51-0	
Phenol-d6 (S)	25	%	11-120	1	09/19/14 00:00	09/22/14 13:47	13127-88-3	
2-Fluorophenol (S)	32	%	17-120	1	09/19/14 00:00	09/22/14 13:47	367-12-4	
2,4,6-Tribromophenol (S)	87	%	39-120	1	09/19/14 00:00	09/22/14 13:47	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**47800**	ug/L	1000	100		09/18/14 15:23	67-64-1	N2
Benzene	ND	ug/L	100	100		09/18/14 15:23	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/18/14 15:23	75-27-4	
Bromoform	ND	ug/L	100	100		09/18/14 15:23	75-25-2	
Bromomethane	ND	ug/L	500	100		09/18/14 15:23	74-83-9	
2-Butanone (MEK)	**19400**	ug/L	1000	100		09/18/14 15:23	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/18/14 15:23	56-23-5	
Chloroethane	ND	ug/L	100	100		09/18/14 15:23	75-00-3	
Chloroform	ND	ug/L	100	100		09/18/14 15:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/18/14 15:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/18/14 15:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 15:23	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/18/14 15:23	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/18/14 15:23	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/18/14 15:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/18/14 15:23	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/18/14 15:23	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/18/14 15:23	127-18-4	
Toluene	ND	ug/L	100	100		09/18/14 15:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/18/14 15:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/18/14 15:23	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/18/14 15:23	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/18/14 15:23	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/18/14 15:23	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	105	%	80-120	100		09/18/14 15:23	460-00-4	
Toluene-d8 (S)	102	%	80-120	100		09/18/14 15:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	100		09/18/14 15:23	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/18/14 15:23		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**42.4**	mg/L	5.0	1		09/20/14 08:46		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Sample: T1-009 **Lab ID: 60178223001** Collected: 09/17/14 11:28 Received: 09/18/14 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	ND	mg/L	5.0	1		09/20/14 09:46		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3680**	mg/L	5.0	1		09/23/14 08:42		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/23/14 09:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**10300**	mg/L	2.0	1	09/18/14 13:59	09/23/14 15:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**157**	mg/L	5.0	50		09/22/14 10:22	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**23000**	mg/L	2500	250		09/25/14 09:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Sample: TRIP BLANK **Lab ID: 60178223002** Collected: 09/17/14 11:28 Received: 09/18/14 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		09/18/14 15:39	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/18/14 15:39	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/18/14 15:39	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/18/14 15:39	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/18/14 15:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/18/14 15:39	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/18/14 15:39	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/18/14 15:39	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/18/14 15:39	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/18/14 15:39	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/18/14 15:39	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/18/14 15:39	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/18/14 15:39	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/18/14 15:39	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/18/14 15:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/18/14 15:39	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/18/14 15:39	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/18/14 15:39	127-18-4	
Toluene	ND	ug/L	1.0	1		09/18/14 15:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/18/14 15:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/18/14 15:39	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/18/14 15:39	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/18/14 15:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/18/14 15:39	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	109	%	80-120	1		09/18/14 15:39	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/18/14 15:39	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		09/18/14 15:39	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/18/14 15:39		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: MERP/8823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178223001

METHOD BLANK: 1445806 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/21/14 14:01	

LABORATORY CONTROL SAMPLE: 1445807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE SAMPLE: 1445810

Parameter	Units	60178232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	1.9	37	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445986 1445987

Parameter	Units	60178106001 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	95.4	92.4	64	62	70-130	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: MERP/8837
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178223001

METHOD BLANK: 1447069 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/22/14 08:55	

LABORATORY CONTROL SAMPLE: 1447070

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447071 1447072

Parameter	Units	60178223001 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	82.2	78.9	55	53	70-130	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: MPRP/29018
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178223001

METHOD BLANK: 1446922
Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/25/14 11:51	
Antimony	ug/L	ND	10.0	09/25/14 11:51	
Arsenic	ug/L	ND	10.0	09/25/14 11:51	
Beryllium	ug/L	ND	1.0	09/25/14 11:51	
Cadmium	ug/L	ND	5.0	09/25/14 11:51	
Chromium	ug/L	ND	5.0	09/25/14 11:51	
Cobalt	ug/L	ND	5.0	09/25/14 11:51	
Copper	ug/L	ND	10.0	09/25/14 11:51	
Iron	ug/L	ND	50.0	09/25/14 11:51	
Lead	ug/L	ND	5.0	09/25/14 11:51	
Nickel	ug/L	ND	5.0	09/25/14 11:51	
Selenium	ug/L	ND	15.0	09/25/14 11:51	
Silver	ug/L	ND	7.0	09/25/14 11:51	
Thallium	ug/L	ND	20.0	09/25/14 11:51	
Zinc	ug/L	ND	50.0	09/25/14 11:51	

LABORATORY CONTROL SAMPLE: 1446923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	995	100	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	998	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	981	98	85-115	
Silver	ug/L	500	491	98	85-115	
Thallium	ug/L	1000	1000	100	85-115	
Zinc	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1446924 1446925

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4300	50000	50000	58800	55800	109	103	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5440	5100	109	102	70-130	6	7	
Arsenic	ug/L	532	5000	5000	5950	5550	108	100	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	5010	4790	100	96	70-130	4	7	
Cadmium	ug/L	ND	5000	5000	5280	4950	106	99	70-130	6	10	
Chromium	ug/L	124	5000	5000	4840	4500	94	88	70-130	7	10	
Cobalt	ug/L	ND	5000	5000	5080	4760	101	95	70-130	6	6	
Copper	ug/L	ND	5000	5000	5450	5100	109	102	70-130	7	11	
Iron	ug/L	382000	50000	50000	440000	406000	115	47	70-130	8	10	M1
Lead	ug/L	60.6	5000	5000	4890	4580	97	90	70-130	7	10	
Nickel	ug/L	75.4	5000	5000	5060	4760	100	94	70-130	6	10	
Selenium	ug/L	ND	5000	5000	5510	5130	110	103	70-130	7	10	
Silver	ug/L	ND	2500	2500	2620	2460	105	98	70-130	6	10	
Thallium	ug/L	ND	5000	5000	4630	4380	93	88	70-130	6	6	
Zinc	ug/L	1770	5000	5000	6480	6000	94	84	70-130	8	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: MPRP/29032
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178223001

METHOD BLANK: 1447065
Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/25/14 12:17	
Antimony, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Arsenic, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Beryllium, Dissolved	ug/L	ND	1.0	09/25/14 12:17	
Cadmium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Chromium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Cobalt, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Copper, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Iron, Dissolved	ug/L	ND	50.0	09/25/14 12:17	
Lead, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Nickel, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Selenium, Dissolved	ug/L	ND	15.0	09/25/14 12:17	
Silver, Dissolved	ug/L	ND	7.0	09/25/14 12:17	
Thallium, Dissolved	ug/L	ND	20.0	09/25/14 12:17	
Zinc, Dissolved	ug/L	ND	50.0	09/25/14 12:17	

LABORATORY CONTROL SAMPLE: 1447066

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	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	988	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	967	97	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	10600	106	85-115	
Lead, Dissolved	ug/L	1000	992	99	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	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 T1-009
Pace Project No.: 60178223

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447067 1447068

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	56600	54800	112	109	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5840	5610	117	112	70-130	4	7	
Arsenic, Dissolved	ug/L	398	5000	5000	6020	5790	112	108	70-130	4	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5460	5310	109	106	70-130	3	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5620	5420	112	108	70-130	4	10	
Chromium, Dissolved	ug/L	71.4	5000	5000	5100	4940	101	97	70-130	3	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5480	5290	109	106	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5740	5560	115	111	70-130	3	11	
Iron, Dissolved	ug/L	75600	50000	50000	133000	128000	114	106	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	5210	5040	104	101	70-130	3	10	
Nickel, Dissolved	ug/L	58.4	5000	5000	5450	5260	108	104	70-130	3	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5700	5520	114	110	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2750	2660	110	106	70-130	3	10	
Thallium, Dissolved	ug/L	ND	5000	5000	5140	4980	103	100	70-130	3	6	
Zinc, Dissolved	ug/L	307	5000	5000	5380	5200	101	98	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: MSV/64484 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178223001, 60178223002

METHOD BLANK: 1444940 Matrix: Water
Associated Lab Samples: 60178223001, 60178223002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/18/14 11:54	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,2-Dichloroethane	ug/L	ND	1.0	09/18/14 11:54	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/18/14 11:54	
2-Butanone (MEK)	ug/L	ND	10.0	09/18/14 11:54	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/18/14 11:54	N2
Acetone	ug/L	ND	10.0	09/18/14 11:54	N2
Benzene	ug/L	ND	1.0	09/18/14 11:54	
Bromodichloromethane	ug/L	ND	1.0	09/18/14 11:54	
Bromoform	ug/L	ND	1.0	09/18/14 11:54	
Bromomethane	ug/L	ND	5.0	09/18/14 11:54	
Carbon tetrachloride	ug/L	ND	1.0	09/18/14 11:54	
Chloroethane	ug/L	ND	1.0	09/18/14 11:54	
Chloroform	ug/L	ND	1.0	09/18/14 11:54	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	N2
Ethylbenzene	ug/L	ND	1.0	09/18/14 11:54	
Methylene chloride	ug/L	ND	1.0	09/18/14 11:54	
Tetrachloroethene	ug/L	ND	1.0	09/18/14 11:54	
Toluene	ug/L	ND	1.0	09/18/14 11:54	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Trichloroethene	ug/L	ND	1.0	09/18/14 11:54	
Vinyl chloride	ug/L	ND	1.0	09/18/14 11:54	
Xylene (Total)	ug/L	ND	3.0	09/18/14 11:54	N2
1,2-Dichloroethane-d4 (S)	%	101	80-120	09/18/14 11:54	
4-Bromofluorobenzene (S)	%	108	80-120	09/18/14 11:54	
Toluene-d8 (S)	%	102	80-120	09/18/14 11:54	

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	15.8	79	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	18.6	93	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.3	91	67-124	
1,2-Dichloroethane	ug/L	20	19.3	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.8	99	74-120	
2-Butanone (MEK)	ug/L	100	84.1	84	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	82.9	83	59-131	N2
Acetone	ug/L	100	80.6	81	38-134	N2
Benzene	ug/L	20	19.3	96	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

LABORATORY CONTROL SAMPLE: 1444941

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	19.1	95	68-125	
Bromoform	ug/L	20	17.2	86	65-127	
Bromomethane	ug/L	20	15.0	75	13-157	
Carbon tetrachloride	ug/L	20	17.1	86	70-131	
Chloroethane	ug/L	20	17.7	89	47-133	
Chloroform	ug/L	20	15.0	75	65-127	
cis-1,2-Dichloroethene	ug/L	20	19.2	96	68-127	N2
Ethylbenzene	ug/L	20	19.4	97	74-122	
Methylene chloride	ug/L	20	19.1	95	64-129	
Tetrachloroethene	ug/L	20	19.4	97	73-125	
Toluene	ug/L	20	19.5	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.5	93	66-129	
Trichloroethene	ug/L	20	19.3	96	71-123	
Vinyl chloride	ug/L	20	16.9	84	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	1690	84	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	2020	101	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1930	96	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1980	99	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	2080	101	33-140	
2-Butanone (MEK)	ug/L	9230	10000	17200	79	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8620	85	40-160	N2
Acetone	ug/L	24300	10000	32200	79	10-160	N2
Benzene	ug/L	ND	2000	2030	101	37-151	
Bromodichloromethane	ug/L	ND	2000	1910	96	35-142	
Bromoform	ug/L	ND	2000	1720	86	45-142	
Bromomethane	ug/L	ND	2000	1450	73	10-158	
Carbon tetrachloride	ug/L	ND	2000	1890	94	70-140	
Chloroethane	ug/L	ND	2000	1820	91	19-152	
Chloroform	ug/L	ND	2000	1860	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	1940	97	34-147	N2
Ethylbenzene	ug/L	ND	2000	2040	102	40-142	
Methylene chloride	ug/L	ND	2000	1970	96	31-144	
Tetrachloroethene	ug/L	ND	2000	2120	106	64-148	
Toluene	ug/L	ND	2000	2010	101	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	1870	93	54-151	
Trichloroethene	ug/L	ND	2000	2000	100	71-149	
Vinyl chloride	ug/L	ND	2000	1770	89	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

MATRIX SPIKE SAMPLE: 1444942

Parameter	Units	60178106001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6150	103	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				103	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 T1-009
Pace Project No.: 60178223

QC Batch: OEXT/46204
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178223001

METHOD BLANK: 1445574
Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/22/14 13:06	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/22/14 13:06	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/22/14 13:06	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/22/14 13:06	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/22/14 13:06	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/22/14 13:06	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/22/14 13:06	
Hexachloroethane	ug/L	ND	5.0	09/22/14 13:06	
Naphthalene	ug/L	ND	5.0	09/22/14 13:06	
Nitrobenzene	ug/L	ND	5.0	09/22/14 13:06	
Pentachlorophenol	ug/L	ND	5.0	09/22/14 13:06	
Phenol	ug/L	ND	5.0	09/22/14 13:06	
2,4,6-Tribromophenol (S)	%	75	39-120	09/22/14 13:06	
2-Fluorobiphenyl (S)	%	74	39-120	09/22/14 13:06	
2-Fluorophenol (S)	%	38	17-120	09/22/14 13:06	
Nitrobenzene-d5 (S)	%	72	33-120	09/22/14 13:06	
Phenol-d6 (S)	%	26	11-120	09/22/14 13:06	
Terphenyl-d14 (S)	%	87	45-120	09/22/14 13:06	

LABORATORY CONTROL SAMPLE: 1445575

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.0	72	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.6	89	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.4	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	30.0	60	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	50.7	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	34.3	69	44-116	
Hexachlorocyclopentadiene	ug/L	100	38.8	39	24-120	
Hexachloroethane	ug/L	50	35.3	71	43-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	37.4	75	48-120	
Pentachlorophenol	ug/L	50	52.0	104	47-120	
Phenol	ug/L	50	13.0	26	16-112	
2,4,6-Tribromophenol (S)	%			98	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			36	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

MATRIX SPIKE SAMPLE: 1445576

Parameter	Units	60178176001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<2.5	50	33.1	66	44-120	
2,4,6-Trichlorophenol	ug/L	<2.5	50	39.4	79	50-120	
2-Methylphenol(o-Cresol)	ug/L	<5.0	50	27.6	55	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	<10.0	50	25.5	51	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	<12.5	50	ND	7	10-160	M1
Hexachloro-1,3-butadiene	ug/L	<2.5	50	31.6	63	39-116	
Hexachlorocyclopentadiene	ug/L	<2.5	100	21.2	21	11-120	
Hexachloroethane	ug/L	<2.5	50	30.4	61	40-113	
Naphthalene	ug/L	<2.5	50	34.1	68	45-120	
Nitrobenzene	ug/L	<2.5	50	32.9	66	38-120	
Pentachlorophenol	ug/L	<2.5	50	7.3	15	43-135	M1
Phenol	ug/L	<2.5	50	11.0	22	13-112	
2,4,6-Tribromophenol (S)	%				69	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				30	17-120	
Nitrobenzene-d5 (S)	%				66	33-120	
Phenol-d6 (S)	%				22	11-120	
Terphenyl-d14 (S)	%				81	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WET/50404 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178223001

METHOD BLANK: 1446986 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/20/14 08:45	

LABORATORY CONTROL SAMPLE: 1446987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.5	99	78-114	

MATRIX SPIKE SAMPLE: 1446989

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.6	44.7	98	78-114	

SAMPLE DUPLICATE: 1446988

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.7	25.2	20	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WET/50405 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178223001

METHOD BLANK: 1446990 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/20/14 09:45	

LABORATORY CONTROL SAMPLE: 1446991

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

MATRIX SPIKE SAMPLE: 1446993

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	13.4	60	64-132	M1

SAMPLE DUPLICATE: 1446992

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.9J		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WET/50433 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178223001

METHOD BLANK: 1447364 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/23/14 08:38	

SAMPLE DUPLICATE: 1447365

Parameter	Units	60178207001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	12.0	8	10	

SAMPLE DUPLICATE: 1447366

Parameter	Units	60178220001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	7.0	0	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WET/50442
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178223001

SAMPLE DUPLICATE: 1447442

Parameter	Units	60178231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WET/50359 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178223001

METHOD BLANK: 1444883 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/23/14 13:13	

LABORATORY CONTROL SAMPLE: 1444884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	100	85-115	

SAMPLE DUPLICATE: 1444885

Parameter	Units	60178227001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	10.1	10.1	0	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WETA/31084
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178223001

METHOD BLANK: 1447043 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 09:39	

LABORATORY CONTROL SAMPLE: 1447044

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1447045

Parameter	Units	60177752002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	2	2.1	102	90-110	

MATRIX SPIKE SAMPLE: 1447046

Parameter	Units	60177705002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1447047

Parameter	Units	60177748002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

QC Batch: WETA/31124 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60178223001

METHOD BLANK: 1448203 Matrix: Water
Associated Lab Samples: 60178223001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/25/14 09:18	

LABORATORY CONTROL SAMPLE: 1448204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.4	109	90-110	

MATRIX SPIKE SAMPLE: 1448205

Parameter	Units	40103107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	24.7	50	89.1	129	90-110	M1

MATRIX SPIKE SAMPLE: 1448207

Parameter	Units	60177993004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3760	2500	6080	93	90-110	

SAMPLE DUPLICATE: 1448206

Parameter	Units	60177910001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	17.0	11.1	42	25	D6

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QUALIFIERS

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-009
Pace Project No.: 60178223

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178223001	**T1-009**	EPA 200.7	MPRP/29018	EPA 200.7	ICP/21847
60178223001	**T1-009**	EPA 200.7	MPRP/29032	EPA 200.7	ICP/21848
60178223001	**T1-009**	EPA 245.1	MERP/8823	EPA 245.1	MERC/8787
60178223001	**T1-009**	EPA 245.1	MERP/8837	EPA 245.1	MERC/8792
60178223001	**T1-009**	EPA 625	OEXT/46204	EPA 625	MSSV/14843
60178223001	**T1-009**	EPA 624 Low	MSV/64484		
60178223002	**TRIP BLANK**	EPA 624 Low	MSV/64484		
60178223001	**T1-009**	EPA 1664A	WET/50404		
60178223001	**T1-009**	EPA 1664A	WET/50405		
60178223001	**T1-009**	SM 2540D	WET/50433		
60178223001	**T1-009**	SM 4500-H+B	WET/50442		
60178223001	**T1-009**	SM 5210B	WET/50359	SM 5210B	WET/50451
60178223001	**T1-009**	EPA 350.1	WETA/31084		
60178223001	**T1-009**	EPA 410.4	WETA/31124		

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www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60178223

60178223

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PVG 10/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD PH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑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 1.0 ml of H2SO4 to BP2S. 5-0/2-0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed PV Lot # of added preservative 12513 12787
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: _____ Date: 10/9/14

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical

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	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)	60178223
1	T1-009 2AGHW 1BP3U 3AG3S	OT	G	9/17/14	1128	—	—		15	10	4	1	0	1B	P3	N 9-			X	X	X	X	X	X	X	X	X	X	X	1B	P3	5 2-0 ~~2~~ 2BP2U 5DG9U 01
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2DG9U 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	[signature] FEI	9-17-14	12:05	[signature]	9-17	12:05				
SITE ADDRESS: BRIDGETON LF				[signature] PASE	9/18/14	0135	2.2	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: 9/17/14

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

September 25, 2014

DEREK BOUCHARD
REPUBLIC SERVICES
13570 ST CHARLES ROCK RD
Bridgeton, MO 63044

RE: Project: BRIDGETON 4337
Pace Project No.: 60178248

Dear DEREK BOUCHARD:
Enclosed are the analytical results for sample(s) received by the laboratory on September 18, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: KEVIN KAMP, CEC

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

CERTIFICATIONS

Project: BRIDGETON 4337
Pace Project No.: 60178248

New Orleans Certification IDs
California Env. Lab Accreditation Program Branch: 11277CA
Florida Department of Health (NELAC): E87595
Illinois Environmental Protection Agency: 0025721
Kansas Department of Health and Environment (NELAC): E-10266
Louisiana Dept. of Environmental Quality (NELAC/LELAP): 02006
Oklahoma Department of Environmental Quality: 2010-139
Oregon Environmental Laboratory Accreditation: LA200001
Pennsylvania Dept. of Env Protection (NELAC): 68-04202
Texas Commission on Env. Quality (NELAC): T104704405-09-TX
U.S. Dept. of Agriculture Foreign Soil Import: P330-10-00119
Washington Department of Ecology: C2078

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 4337
Pace Project No.: 60178248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178248001	**SLUDGE TRUCK 3**	Solid	09/17/14 14:15	09/18/14 01:35
60178248002	**SLUDGE TRUCK 3**	Solid	09/17/14 14:15	09/18/14 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON 4337
Pace Project No.: 60178248

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60178248001	**SLUDGE TRUCK 3**	EPA 8081A	SPP1	9	PASI-N
		EPA 8151	SPP1	3	PASI-N
		EPA 6010	NDJ	7	PASI-K
		EPA 7470	ZBM	1	PASI-K
		EPA 8270	JMT	18	PASI-K
		ASTM D2974	DWC	1	PASI-K
		SM 2540G	JML	1	PASI-K
		SW-846 7.3.4.2	LJL	1	PASI-N
		EPA 9045	JML	1	PASI-K
		EPA 9095	AJM	1	PASI-K
		ASTM D92	JML	1	PASI-K
		EPA 300.0	OL	1	PASI-K
		SW-846 7.3.3.2	SMS2	1	PASI-N
		EPA 9023	JRP	1	PASI-N
		EPA 9065	SMS2	1	PASI-N
60178248002	**SLUDGE TRUCK 3**	EPA 8082	JDH	8	PASI-K
		EPA 8260	JKL	13	PASI-K
		ASTM D2974	DWC	1	PASI-K

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178248

Sample: SLUDGE TRUCK 3 **Lab ID: 60178248001** Collected: 09/17/14 14:15 Received: 09/18/14 01:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 OCC Pesticide, TCLP SPE	Analytical Method: EPA 8081A Preparation Method: EPA 3535							
	Leachate Method/Date: EPA 1311; 09/19/14 17:00							
gamma-BHC (Lindane)	ND	mg/L	0.00050	1	09/22/14 15:17	09/23/14 12:32	58-89-9	
Chlordane (Technical)	ND	mg/L	0.0050	1	09/22/14 15:17	09/23/14 12:32	57-74-9	
Endrin	ND	mg/L	0.0010	1	09/22/14 15:17	09/23/14 12:32	72-20-8	
Heptachlor	ND	mg/L	0.00050	1	09/22/14 15:17	09/23/14 12:32	76-44-8	
Heptachlor epoxide	ND	mg/L	0.00050	1	09/22/14 15:17	09/23/14 12:32	1024-57-3	
Methoxychlor	ND	mg/L	0.0050	1	09/22/14 15:17	09/23/14 12:32	72-43-5	
Toxaphene	ND	mg/L	0.020	1	09/22/14 15:17	09/23/14 12:32	8001-35-2	
Surrogates								
Tetrachloro-m-xylene (S)	61	%.	10-119	1	09/22/14 15:17	09/23/14 12:32	877-09-8	
Tetrachloro-m-xylene (S)	59	%.	10-119	1	09/22/14 15:17	09/23/14 12:32	877-09-8	
Decachlorobiphenyl (S)	76	%.	14-126	1	09/22/14 15:17	09/23/14 12:32	2051-24-3	
Decachlorobiphenyl (S)	67	%.	14-126	1	09/22/14 15:17	09/23/14 12:32	2051-24-3	
8151A Cl Herbicides TCLP	Analytical Method: EPA 8151 Preparation Method: EPA 3535A							
	Leachate Method/Date: EPA 1311; 09/19/14 17:00							
2,4-D	ND	mg/L	0.020	1	09/22/14 15:16	09/23/14 13:13	94-75-7	R1
2,4,5-TP (Silvex)	ND	mg/L	0.020	1	09/22/14 15:16	09/23/14 13:13	93-72-1	R1
Surrogates								
2,4-DCAA (S)	89	%.	10-166	1	09/22/14 15:16	09/23/14 13:13	19719-28-9	
2,4-DCAA (S)	88	%.	10-166	1	09/22/14 15:16	09/23/14 13:13	19719-28-9	
6010 MET ICP, TCLP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
	Leachate Method/Date: EPA 1311; 09/18/14 00:00							
Arsenic	ND	mg/L	0.50	1	09/19/14 10:50	09/22/14 09:37	7440-38-2	
Barium	ND	mg/L	2.5	1	09/19/14 10:50	09/22/14 09:37	7440-39-3	
Cadmium	ND	mg/L	0.050	1	09/19/14 10:50	09/22/14 09:37	7440-43-9	
Chromium	ND	mg/L	0.10	1	09/19/14 10:50	09/22/14 09:37	7440-47-3	
Lead	ND	mg/L	0.50	1	09/19/14 10:50	09/22/14 09:37	7439-92-1	
Selenium	ND	mg/L	0.50	1	09/19/14 10:50	09/22/14 09:37	7782-49-2	
Silver	ND	mg/L	0.10	1	09/19/14 10:50	09/22/14 09:37	7440-22-4	
7470 Mercury, TCLP	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
	Leachate Method/Date: EPA 1311; 09/18/14 00:00							
Mercury	ND	mg/L	0.0020	1	09/19/14 12:45	09/20/14 12:32	7439-97-6	
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
	Leachate Method/Date: EPA 1311; 09/18/14 00:00							
1,4-Dichlorobenzene	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	106-46-7	
2,4-Dinitrotoluene	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	121-14-2	
Hexachloro-1,3-butadiene	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	87-68-3	
Hexachlorobenzene	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	118-74-1	
Hexachloroethane	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	200	1	09/19/14 00:00	09/22/14 17:35		
Nitrobenzene	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178248

Sample: SLUDGE TRUCK 3 **Lab ID: 60178248001** Collected: 09/17/14 14:15 Received: 09/18/14 01:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel	Analytical Method: EPA 8270 Preparation Method: EPA 3510 Leachate Method/Date: EPA 1311; 09/18/14 00:00							
Pentachlorophenol	ND	ug/L	500	1	09/19/14 00:00	09/22/14 17:35	87-86-5	
Pyridine	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	110-86-1	
2,4,5-Trichlorophenol	ND	ug/L	500	1	09/19/14 00:00	09/22/14 17:35	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	100	1	09/19/14 00:00	09/22/14 17:35	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	73	%	44-120	1	09/19/14 00:00	09/22/14 17:35	4165-60-0	
2-Fluorobiphenyl (S)	78	%	49-120	1	09/19/14 00:00	09/22/14 17:35	321-60-8	
Terphenyl-d14 (S)	97	%	52-122	1	09/19/14 00:00	09/22/14 17:35	1718-51-0	
Phenol-d6 (S)	72	%	36-120	1	09/19/14 00:00	09/22/14 17:35	13127-88-3	
2-Fluorophenol (S)	62	%	37-120	1	09/19/14 00:00	09/22/14 17:35	367-12-4	
2,4,6-Tribromophenol (S)	85	%	36-128	1	09/19/14 00:00	09/22/14 17:35	118-79-6	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**78.8**	%	0.50	1		09/19/14 00:00		
2540G Total Percent Solids	Analytical Method: SM 2540G							
Total Solids	**21.6**	%	0.10	1		09/22/14 13:19		
Reactive Sulfide	Analytical Method: SW-846 7.3.4.2 Preparation Method: SW-846 7.3.4.2							
Sulfide, Reactive	ND	mg/kg	50.0	1	09/22/14 11:32	09/22/14 14:39		
9045 pH Soil	Analytical Method: EPA 9045							
pH at 25 Degrees C	**7.6**	Std. Units	0.10	1		09/23/14 16:00		H1
9095 Paint Filter Liquid Test	Analytical Method: EPA 9095							
Free Liquids	**negative**			1		09/24/14 10:30		
Flashpoint, Open Cup	Analytical Method: ASTM D92							
Flashpoint	**>210**	deg F		1		09/25/14 15:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0 Preparation Method: EPA 300.0							
Sulfate	**2080**	mg/kg	466	10	09/21/14 10:00	09/21/14 16:21	14808-79-8	
733C S Reactive Cyanide	Analytical Method: SW-846 7.3.3.2 Preparation Method: SW-846 7.3.3.2							
Cyanide, Reactive	ND	mg/kg	25.0	1	09/22/14 11:34	09/22/14 11:46		
9023 Ext. Organic Halides EOX	Analytical Method: EPA 9023 Preparation Method: EPA 9023							
Extractable Organic Halogens	**587**	mg/kg	248	1	09/19/14 09:00	09/19/14 12:36		
9065 Phenolics, Total	Analytical Method: EPA 9065 Preparation Method: EPA 9065							
Phenolics, Total Recoverable	ND	mg/kg	0.69	1	09/24/14 11:37	09/24/14 11:39		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON 4337
Pace Project No.: 60178248

Sample: SLUDGE TRUCK 3 **Lab ID: 60178248002** Collected: 09/17/14 14:15 Received: 09/18/14 01:35 Matrix: Solid

Results reported on a "dry-weight" basis

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8082 GCS PCB SW	Analytical Method: EPA 8082 Preparation Method: EPA 3546							
PCB-1016 (Aroclor 1016)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/kg	1710	1	09/18/14 00:00	09/20/14 11:01	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/kg	857	1	09/18/14 00:00	09/20/14 11:01	11096-82-5	
Surrogates								
Decachlorobiphenyl (S)	84	%	38-119	1	09/18/14 00:00	09/20/14 11:01	2051-24-3	
8260 MSV TCLP	Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 09/19/14 09:04							
Benzene	ND	ug/L	50.0	1		09/19/14 17:27	71-43-2	
2-Butanone (MEK)	ND	ug/L	1000	1		09/19/14 17:27	78-93-3	
Carbon tetrachloride	ND	ug/L	50.0	1		09/19/14 17:27	56-23-5	
Chlorobenzene	ND	ug/L	50.0	1		09/19/14 17:27	108-90-7	
Chloroform	ND	ug/L	200	1		09/19/14 17:27	67-66-3	
1,2-Dichloroethane	ND	ug/L	50.0	1		09/19/14 17:27	107-06-2	
1,1-Dichloroethene	ND	ug/L	50.0	1		09/19/14 17:27	75-35-4	
Tetrachloroethene	ND	ug/L	50.0	1		09/19/14 17:27	127-18-4	
Trichloroethene	ND	ug/L	50.0	1		09/19/14 17:27	79-01-6	
Vinyl chloride	ND	ug/L	20.0	1		09/19/14 17:27	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		09/19/14 17:27	17060-07-0	
Toluene-d8 (S)	111	%	80-120	1		09/19/14 17:27	2037-26-5	
4-Bromofluorobenzene (S)	96	%	80-120	1		09/19/14 17:27	460-00-4	
Percent Moisture	Analytical Method: ASTM D2974							
Percent Moisture	**79.1**	%	0.50	1		09/19/14 00:00		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: MERP/8821
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury TCLP
Associated Lab Samples: 60178248001

METHOD BLANK: 1445781 Matrix: Water
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	09/20/14 12:28	

LABORATORY CONTROL SAMPLE: 1445782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.005	0.0052	103	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445783 1445784

Parameter	Units	60178248001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.015	.015	0.013	0.013	88	89	75-125	0	20	

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

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: MPRP/28981
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET TCLP
Associated Lab Samples: 60178248001

METHOD BLANK: 1445776 Matrix: Water
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	09/22/14 09:33	
Barium	mg/L	ND	2.5	09/22/14 09:33	
Cadmium	mg/L	ND	0.050	09/22/14 09:33	
Chromium	mg/L	ND	0.10	09/22/14 09:33	
Lead	mg/L	ND	0.50	09/22/14 09:33	
Selenium	mg/L	ND	0.50	09/22/14 09:33	
Silver	mg/L	ND	0.10	09/22/14 09:33	

LABORATORY CONTROL SAMPLE: 1445777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.95	95	80-120	
Barium	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	1	0.97	97	80-120	
Chromium	mg/L	1	1.0	100	80-120	
Lead	mg/L	1	0.98	98	80-120	
Selenium	mg/L	1	0.93	93	80-120	
Silver	mg/L	.5	0.48	96	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445778 1445779

Parameter	Units	60178248001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	ND	10	10	9.5	9.7	94	96	75-125	2	20	
Barium	mg/L	ND	10	10	10	9.8	100	98	75-125	2	20	
Cadmium	mg/L	ND	10	10	9.4	9.6	94	96	75-125	2	20	
Chromium	mg/L	ND	10	10	9.7	9.6	96	96	75-125	0	20	
Lead	mg/L	ND	10	10	9.0	9.1	90	91	75-125	1	20	
Selenium	mg/L	ND	10	10	9.0	9.2	90	92	75-125	2	20	
Silver	mg/L	ND	5	5	4.7	4.6	95	92	75-125	3	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: MSV/64511
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60178248002

METHOD BLANK: 1445811
Matrix: Water
Associated Lab Samples: 60178248002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/19/14 17:11	
1,2-Dichloroethane	ug/L	ND	50.0	09/19/14 17:11	
2-Butanone (MEK)	ug/L	ND	1000	09/19/14 17:11	
Benzene	ug/L	ND	50.0	09/19/14 17:11	
Carbon tetrachloride	ug/L	ND	50.0	09/19/14 17:11	
Chlorobenzene	ug/L	ND	50.0	09/19/14 17:11	
Chloroform	ug/L	ND	200	09/19/14 17:11	
Tetrachloroethene	ug/L	ND	50.0	09/19/14 17:11	
Trichloroethene	ug/L	ND	50.0	09/19/14 17:11	
Vinyl chloride	ug/L	ND	20.0	09/19/14 17:11	
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/19/14 17:11	
4-Bromofluorobenzene (S)	%	98	80-120	09/19/14 17:11	
Toluene-d8 (S)	%	109	80-120	09/19/14 17:11	

LABORATORY CONTROL SAMPLE: 1445812

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1110	111	78-126	
1,2-Dichloroethane	ug/L	1000	1040	104	77-123	
2-Butanone (MEK)	ug/L	5000	5040	101	52-145	
Benzene	ug/L	1000	1090	109	80-120	
Carbon tetrachloride	ug/L	1000	1200	120	78-128	
Chlorobenzene	ug/L	1000	1030	103	80-120	
Chloroform	ug/L	1000	1050	105	79-120	
Tetrachloroethene	ug/L	1000	1120	112	80-121	
Trichloroethene	ug/L	1000	1090	109	80-120	
Vinyl chloride	ug/L	1000	1040	104	59-120	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1445813

Parameter	Units	60178248002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	985	98	60-144	
1,2-Dichloroethane	ug/L	ND	1000	1110	111	49-148	
2-Butanone (MEK)	ug/L	ND	5000	4970	97	36-145	
Benzene	ug/L	ND	1000	1070	107	37-157	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

MATRIX SPIKE SAMPLE: 1445813

Parameter	Units	60178248002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	1000	1120	112	68-142	
Chlorobenzene	ug/L	ND	1000	1010	101	66-133	
Chloroform	ug/L	ND	1000	994	99	66-127	
Tetrachloroethene	ug/L	ND	1000	1050	105	69-133	
Trichloroethene	ug/L	ND	1000	1050	105	61-135	
Vinyl chloride	ug/L	ND	1000	941	94	44-128	
1,2-Dichloroethane-d4 (S)	%				96	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				110	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: OEXT/2841
QC Batch Method: EPA 3535
Analysis Method: EPA 8081A
Analysis Description: 8081A GCS TCLP Pesticides
Associated Lab Samples: 60178248001

METHOD BLANK: 52842 Matrix: Water
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.0050	09/23/14 11:16	
Endrin	mg/L	ND	0.0010	09/23/14 11:16	
gamma-BHC (Lindane)	mg/L	ND	0.00050	09/23/14 11:16	
Heptachlor	mg/L	ND	0.00050	09/23/14 11:16	
Heptachlor epoxide	mg/L	ND	0.00050	09/23/14 11:16	
Methoxychlor	mg/L	ND	0.0050	09/23/14 11:16	
Toxaphene	mg/L	ND	0.020	09/23/14 11:16	
Decachlorobiphenyl (S)	%.	69	14-126	09/23/14 11:16	
Decachlorobiphenyl (S)	%.	73	14-126	09/23/14 11:16	
Tetrachloro-m-xylene (S)	%.	51	10-119	09/23/14 11:16	
Tetrachloro-m-xylene (S)	%.	54	10-119	09/23/14 11:16	

LABORATORY CONTROL SAMPLE: 53503

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin	mg/L	.005	0.0039	77	20-153	
gamma-BHC (Lindane)	mg/L	.005	0.0042	84	28-128	
Heptachlor	mg/L	.005	0.0025	50	10-115	
Heptachlor epoxide	mg/L	.005	0.0039	78	30-119	
Methoxychlor	mg/L	.005	.0031J	62	21-150	
Decachlorobiphenyl (S)	%.			67	14-126	
Decachlorobiphenyl (S)	%.			73	14-126	
Tetrachloro-m-xylene (S)	%.			53	10-119	
Tetrachloro-m-xylene (S)	%.			57	10-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 53504 53505

Parameter	Units	209249001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Endrin	mg/L	ND	.005	.005	0.0036	0.0034	73	68	22-160	7	20	
gamma-BHC (Lindane)	mg/L	ND	.005	.005	0.0038	0.0035	76	69	17-149	9	20	
Heptachlor	mg/L	ND	.005	.005	0.0026	0.0024	53	47	10-134	10	20	
Heptachlor epoxide	mg/L	ND	.005	.005	0.0035	0.0033	70	64	13-147	8	20	
Methoxychlor	mg/L	ND	.005	.005	.0033J	.0032J	64	61	17-166		20	
Decachlorobiphenyl (S)	%.						63	63	14-126			
Decachlorobiphenyl (S)	%.						72	71	14-126			
Tetrachloro-m-xylene (S)	%.						60	55	10-119			
Tetrachloro-m-xylene (S)	%.						56	49	10-119			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: OEXT/46184
QC Batch Method: EPA 3546
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Associated Lab Samples: 60178248002

METHOD BLANK: 1444778 Matrix: Solid
Associated Lab Samples: 60178248002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1221 (Aroclor 1221)	ug/kg	ND	66.0	09/20/14 10:09	
PCB-1232 (Aroclor 1232)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1242 (Aroclor 1242)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1248 (Aroclor 1248)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1254 (Aroclor 1254)	ug/kg	ND	33.0	09/20/14 10:09	
PCB-1260 (Aroclor 1260)	ug/kg	ND	33.0	09/20/14 10:09	
Decachlorobiphenyl (S)	%	87	38-119	09/20/14 10:09	

LABORATORY CONTROL SAMPLE: 1444779

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/kg	167	193	116	71-122	
PCB-1260 (Aroclor 1260)	ug/kg	167	193	116	75-117	
Decachlorobiphenyl (S)	%			102	38-119	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1444780 1444781

Parameter	Units	40103405004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
PCB-1016 (Aroclor 1016)	ug/kg	<44.5	183	174	656	867	359	498	20-160	28	35	M1
PCB-1260 (Aroclor 1260)	ug/kg	<36.5	183	174	283J	287J	155	165	17-160		34	M1
Decachlorobiphenyl (S)	%						0	0	38-119			S4

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: OEXT/2842
QC Batch Method: EPA 3535A
Analysis Method: EPA 8151
Analysis Description: 8151 GCS TCLP Herbicides
Associated Lab Samples: 60178248001

METHOD BLANK: 52842 Matrix: Water
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.020	09/23/14 11:36	
2,4-D	mg/L	ND	0.020	09/23/14 11:36	
2,4-DCAA (S)	%.	65	10-166	09/23/14 11:36	
2,4-DCAA (S)	%.	74	10-166	09/23/14 11:36	

LABORATORY CONTROL SAMPLE: 53506

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.04	0.031	78	22-158	
2,4-D	mg/L	.04	0.029	72	10-151	
2,4-DCAA (S)	%.			99	10-166	
2,4-DCAA (S)	%.			95	10-166	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 53507 53508

Parameter	Units	60178248001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	.04	.04	0.033	0.026	83	65	16-164	24	20	R1
2,4-D	mg/L	ND	.04	.04	0.034	0.026	85	65	10-160	27	20	R1
2,4-DCAA (S)	%.						95	70	10-166			
2,4-DCAA (S)	%.						100	77	10-166			

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: OEXT/46208
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 TCLP MSSV
Associated Lab Samples: 60178248001

METHOD BLANK: 1445825
Matrix: Water
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	09/22/14 16:33	
2,4,5-Trichlorophenol	ug/L	ND	500	09/22/14 16:33	
2,4,6-Trichlorophenol	ug/L	ND	100	09/22/14 16:33	
2,4-Dinitrotoluene	ug/L	ND	100	09/22/14 16:33	
2-Methylphenol(o-Cresol)	ug/L	ND	100	09/22/14 16:33	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	09/22/14 16:33	
Hexachloro-1,3-butadiene	ug/L	ND	100	09/22/14 16:33	
Hexachlorobenzene	ug/L	ND	100	09/22/14 16:33	
Hexachloroethane	ug/L	ND	100	09/22/14 16:33	
Nitrobenzene	ug/L	ND	100	09/22/14 16:33	
Pentachlorophenol	ug/L	ND	500	09/22/14 16:33	
Pyridine	ug/L	ND	100	09/22/14 16:33	
2,4,6-Tribromophenol (S)	%	82	36-128	09/22/14 16:33	
2-Fluorobiphenyl (S)	%	77	49-120	09/22/14 16:33	
2-Fluorophenol (S)	%	65	37-120	09/22/14 16:33	
Nitrobenzene-d5 (S)	%	73	44-120	09/22/14 16:33	
Phenol-d6 (S)	%	73	36-120	09/22/14 16:33	
Terphenyl-d14 (S)	%	90	52-122	09/22/14 16:33	

LABORATORY CONTROL SAMPLE: 1445826

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	386	77	47-120	
2,4,5-Trichlorophenol	ug/L	500	479J	96	51-124	
2,4,6-Trichlorophenol	ug/L	500	485	97	46-120	
2,4-Dinitrotoluene	ug/L	500	337	67	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	414	83	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	843	84	41-120	
Hexachloro-1,3-butadiene	ug/L	500	369	74	49-120	
Hexachlorobenzene	ug/L	500	387	77	50-120	
Hexachloroethane	ug/L	500	318	64	38-120	
Nitrobenzene	ug/L	500	371	74	49-120	
Pentachlorophenol	ug/L	500	514	103	35-125	
Pyridine	ug/L	500	211	42	10-120	
2,4,6-Tribromophenol (S)	%			83	36-128	
2-Fluorobiphenyl (S)	%			82	49-120	
2-Fluorophenol (S)	%			67	37-120	
Nitrobenzene-d5 (S)	%			78	44-120	
Phenol-d6 (S)	%			75	36-120	
Terphenyl-d14 (S)	%			94	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

MATRIX SPIKE SAMPLE: 1445827

Parameter	Units	60178248001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	373	74	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	497J	99	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	506	101	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	334	67	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	421	84	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	869	86	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	355	71	49-120	
Hexachlorobenzene	ug/L	ND	500	376	75	53-120	
Hexachloroethane	ug/L	ND	500	305	61	38-120	
Nitrobenzene	ug/L	ND	500	358	72	51-120	
Pentachlorophenol	ug/L	ND	500	196J	39	34-131	
Pyridine	ug/L	ND	500	140	28	10-120	
2,4,6-Tribromophenol (S)	%				80	36-128	
2-Fluorobiphenyl (S)	%				79	49-120	
2-Fluorophenol (S)	%				64	37-120	
Nitrobenzene-d5 (S)	%				75	44-120	
Phenol-d6 (S)	%				74	36-120	
Terphenyl-d14 (S)	%				90	52-122	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: PMST/10036
QC Batch Method: ASTM D2974
Analysis Method: ASTM D2974
Analysis Description: Dry Weight/Percent Moisture
Associated Lab Samples: 60178248001, 60178248002

METHOD BLANK: 1445589 Matrix: Solid
Associated Lab Samples: 60178248001, 60178248002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Percent Moisture	%	ND	0.50	09/19/14 00:00	

SAMPLE DUPLICATE: 1445590

Parameter	Units	10281486001 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	13.3	13.3	0	20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: WET/50382
QC Batch Method: SM 2540G
Analysis Method: SM 2540G
Analysis Description: 2540G Total Solids
Associated Lab Samples: 60178248001

METHOD BLANK: 1445619 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	%	ND	0.10	09/22/14 13:19	

SAMPLE DUPLICATE: 1445620

Parameter	Units	60178177005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	14.1	15.8	12	8	D6

SAMPLE DUPLICATE: 1445621

Parameter	Units	60178014009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	%	78.6	78.9	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: WET/3558 Analysis Method: SW-846 7.3.4.2
QC Batch Method: SW-846 7.3.4.2 Analysis Description: Reactive Sulfide
Associated Lab Samples: 60178248001

METHOD BLANK: 53399 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Reactive	mg/kg	ND	50.0	09/22/14 14:38	

LABORATORY CONTROL SAMPLE: 53400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	500	441	88	1-110	

MATRIX SPIKE SAMPLE: 53402

Parameter	Units	209360001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfide, Reactive	mg/kg	ND	500	441	84	1-110	

SAMPLE DUPLICATE: 53401

Parameter	Units	209360001 Result	Dup Result	RPD	Max RPD	Qualifiers
Sulfide, Reactive	mg/kg	ND	ND		20	

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: WET/50453
QC Batch Method: EPA 9045
Analysis Method: EPA 9045
Analysis Description: 9045 pH
Associated Lab Samples: 60178248001

SAMPLE DUPLICATE: 1447854

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.6	0	3	H1

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QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: WET/50468
QC Batch Method: EPA 9095
Analysis Method: EPA 9095
Analysis Description: 9095 PAINT FILTER LIQUID TEST
Associated Lab Samples: 60178248001

SAMPLE DUPLICATE: 1448139

Parameter	Units	60178248001 Result	Dup Result	RPD	Max RPD	Qualifiers
Free Liquids		negative	negative			

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 4337
Pace Project No.: 60178248

QC Batch: WETA/31080
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions
Associated Lab Samples: 60178248001

METHOD BLANK: 1447024 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/kg	ND	99.6	09/21/14 14:41	

LABORATORY CONTROL SAMPLE: 1447025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/kg	499	481	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447026 1447027

Parameter	Units	60178133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/kg	793	2260	2270	3020	3040	99	99	80-120	1	15	

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 4337
Pace Project No.: 60178248

QC Batch: WETA/3101
QC Batch Method: SW-846 7.3.3.2
Analysis Method: SW-846 7.3.3.2
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 60178248001

METHOD BLANK: 53405 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/kg	ND	25.0	09/22/14 13:00	

LABORATORY CONTROL SAMPLE: 53406

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	100	ND	10	1-110	

MATRIX SPIKE SAMPLE: 53408

Parameter	Units	209360001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cyanide, Reactive	mg/kg	ND	100	ND	0	1-110	M1

SAMPLE DUPLICATE: 53407

Parameter	Units	209360001 Result	Dup Result	RPD	Max RPD	Qualifiers
Cyanide, Reactive	mg/kg	ND	ND		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 4337
Pace Project No.: 60178248

QC Batch: WETA/3075
QC Batch Method: EPA 9023
Analysis Method: EPA 9023
Analysis Description: 9023 Extractable Organic Halides EOX
Associated Lab Samples: 60178248001

METHOD BLANK: 52317 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Extractable Organic Halogens	mg/kg	ND	47.8	09/19/14 11:02	

LABORATORY CONTROL SAMPLE: 52318

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Extractable Organic Halogens	mg/kg	966	822	85	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 52319 52320

Parameter	Units	60178133001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Extractable Organic Halogens	mg/kg	ND	4620	4530	4390	4000	93	86	75-125	9	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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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON 4337
Pace Project No.: 60178248

QC Batch: WETA/3133
QC Batch Method: EPA 9065
Analysis Method: EPA 9065
Analysis Description: 9065 Phenolics
Associated Lab Samples: 60178248001

METHOD BLANK: 54334 Matrix: Solid
Associated Lab Samples: 60178248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenolics, Total Recoverable	mg/kg	ND	0.15	09/24/14 12:47	

LABORATORY CONTROL SAMPLE: 54335

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenolics, Total Recoverable	mg/kg	2.5	2.6	104	80-120	

SAMPLE DUPLICATE: 54336

Parameter	Units	60178133001 Result	Dup Result	RPD	Max RPD	Qualifiers
Phenolics, Total Recoverable	mg/kg	11.9	11.6	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

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

QUALIFIERS

Project: BRIDGETON 4337
Pace Project No.: 60178248

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-N	Pace Analytical Services - New Orleans

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON 4337
Pace Project No.: 60178248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178248001	**SLUDGE TRUCK 3**	EPA 3535	OEXT/2841	EPA 8081A	GCSV/2397
60178248002	**SLUDGE TRUCK 3**	EPA 3546	OEXT/46184	EPA 8082	GCSV/17631
60178248001	**SLUDGE TRUCK 3**	EPA 3535A	OEXT/2842	EPA 8151	GCSV/2398
60178248001	**SLUDGE TRUCK 3**	EPA 3010	MPRP/28981	EPA 6010	ICP/21825
60178248001	**SLUDGE TRUCK 3**	EPA 7470	MERP/8821	EPA 7470	MERC/8778
60178248001	**SLUDGE TRUCK 3**	EPA 3510	OEXT/46208	EPA 8270	MSSV/14844
60178248002	**SLUDGE TRUCK 3**	EPA 8260	MSV/64511		
60178248001	**SLUDGE TRUCK 3**	ASTM D2974	PMST/10036		
60178248002	**SLUDGE TRUCK 3**	ASTM D2974	PMST/10036		
60178248001	**SLUDGE TRUCK 3**	SM 2540G	WET/50382		
60178248001	**SLUDGE TRUCK 3**	SW-846 7.3.4.2	WET/3558	SW-846 7.3.4.2	WET/3566
60178248001	**SLUDGE TRUCK 3**	EPA 9045	WET/50453		
60178248001	**SLUDGE TRUCK 3**	EPA 9095	WET/50468		
60178248001	**SLUDGE TRUCK 3**	ASTM D92	WET/50506		
60178248001	**SLUDGE TRUCK 3**	EPA 300.0	WETA/31080	EPA 300.0	WETA/31081
60178248001	**SLUDGE TRUCK 3**	SW-846 7.3.3.2	WETA/3101	SW-846 7.3.3.2	WETA/3105
60178248001	**SLUDGE TRUCK 3**	EPA 9023	WETA/3075	EPA 9023	WETA/3084
60178248001	**SLUDGE TRUCK 3**	EPA 9065	WETA/3133	EPA 9065	WETA/3143

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60178248

60178248

Client Name: Republic Services

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 ☑ ZPK

Thermometer Used: T-238 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 5.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DVG/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.	
Rush Turn Around Time requested: DVG/18/14	☐Yes ☑No ☐N/A	7. ASAP	
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: SL		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: 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: 8/18/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical
www.pacelabs.com

Page: 1 of 1

Section A — **Required** Client Information:

Company:	Republic Services
Address:	13570 St. Charles Rock Rd
	Bridgeton, MO 63044
Email To:	dbouchard@republicservices.com
Phone: 314-302-3634	Fax:
Requested Due Date/TAT:	ASAP

Section B — **Required** Project Information:

Report To:	Derek Bouchard
Copy To:	Kevin Kamp (kkamp@cecinc.com)
Purchase Order No.:	
Project Name:	BRIDGETON
Project Number:	4337

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 #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER _____

Site Location STATE: MO

Section D — **Required** Client Information

Valid Matrix Codes

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

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED: COMPOSITE START DATE	COLLECTED: COMPOSITE START TIME	COLLECTED: COMPOSITE END/GRAB DATE	COLLECTED: COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	Preservatives: H_2SO_4	Preservatives: HNO_3	Preservatives: HCl	Preservatives: NaOH	Preservatives: $Na_2S_2O_3$	Preservatives: Methanol	Preservatives: Other	Analysis Test Y/N	TCLP RCRA 8	TCLP SVOCs	TCLP Herbicides	TCLP Pesticides	Reactive Cyanide/Suflide	Flashpoint	EOX	Paint Filter, pH, % Solids	Phenol	TCLP VOCs	PCBs EPA 8082	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SLUDGE TRUCK 3		C	9/17	~1:45	9/17	2:15pm		4	4									x	x	x	x	x	x	x	x				40178248
2	SLUDGE TRUCK 3		G	9/17	~1:45				1	1																	x	x		40178248
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		9/17/14	1500		9/17/14	2:54				
		9/17/14	3:14		9/17/14	1514				
		9/17/14	1700		9/18/14	0135	5-4	Y	Y	Y

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed (MM/DD/YY):				

*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# : 209616

209616

Workorder: 60178248 **Workorder Name:** BRIDGETON 4337 **Owner Received Date:** 9/18/2014 **Results Requested By:** 9/23/2014

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 New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone (504)469-0333

						Preserved Containers						Requested Analysis												
Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	none						Phenol 9095	Reactive S & CN	EOX	TCLP Pest	TCLP Herb	TCLP PREP EPA 1311							LAB USE ONLY
1	SLUDGE TRUCK 3	PS	9/17/2014 14:15	60178248001	Solid	2						X	X	X	X	X	X							
2																								
3																								
4																								
5																								

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature] FedEx	9/18/14 1200		
2		9-19-14 0820	[signature]	9-19-14
3				

Comments: 0820

Cooler Temperature on Receipt 2.4 °C **Custody Seal** (Y) or N **Received on Ice** (Y) or N **Samples Intact** (Y) or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

WO#: 209616

PM: KHB Due Date: 09/23/14

CLIENT: PASI-KANS PASI - Kansas

Pace Analytical

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Sample Cond

Project #: 20

Courier: ☐ Pace Courier ☐ Hired Courier ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals intact:** ☑Yes ☐No

Therometer Used: ☐ Therm Fisher IR 5 ☐ Therm Fisher IR 6 ☑ Therm Fisher IR 7

Type of Ice: (Wet) Blue None

Samples on ice: [see COC]

Cooler Temperature: [see COC]

Temp should be above freezing to 6°C

Date and Initials of person examining contents: 9-19-14 SwB

Temp must be measured from Temperature blank when present

			Comments:
Temperature Blank Present"?	☑Yes	☐No ☐N/A	1
Chain of Custody Present:	☑Yes	☐No ☐N/A	2
Chain of Custody Complete:	☑Yes	☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes	☐No ☐N/A	4
Sampler Name & Signature on COC:	☐Yes	☑No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes	☐No ☐N/A	6
Sufficient Volume:	☑Yes	☐No ☐N/A	7
Correct Containers Used:	☑Yes	☐No ☐N/A	8 8 oz jar
Filtered vol. Rec. for Diss. tests	☐Yes	☐No ☑N/A	9
Sample Labels match COC:	☑Yes	☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes	☐No ☐N/A	11
All containers needing chemical preservation have been checked (except VOA, coliform, & O&G).	☐Yes	☐No ☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes	☐No ☑N/A	13 If No, was preserative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Headspace in VOA Vials (>6mm):	☐Yes	☐No ☑N/A	14
Trip Blank Present:	☐Yes	☑No	15

Client Notification/ Resolution:

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

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

September 26, 2014

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

RE: Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

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

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

CERTIFICATIONS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

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 T1-010
Pace Project No.: 60178355

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178355001	**T1-010**	Water	09/18/14 10:38	09/19/14 01:45
60178355002	**TRIP BLANK**	Water	09/18/14 10:38	09/19/14 01:45

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178355001	**T1-010**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	1
		EPA 625	JMT	18
		EPA 624 Low	EAK, PRG	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178355002	**TRIP BLANK**	EPA 624 Low	EAK, PRG	28

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

Sample: T1-010 **Lab ID: 60178355001** Collected: 09/18/14 10:38 Received: 09/19/14 01:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4750**	ug/L	375	1	09/21/14 17:25	09/25/14 12:10	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:10	7440-36-0	
Arsenic	**570**	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:10	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 12:10	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:10	7440-43-9	
Chromium	**145**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:10	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:10	7440-48-4	
Copper	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:10	7440-50-8	
Iron	**444000**	ug/L	250	1	09/21/14 17:25	09/25/14 12:10	7439-89-6	
Lead	**64.6**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:10	7439-92-1	
Nickel	**77.8**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:10	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 12:10	7782-49-2	
Silver	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 12:10	7440-22-4	
Thallium	ND	ug/L	100	1	09/21/14 17:25	09/25/14 12:10	7440-28-0	
Zinc	**2120**	ug/L	250	1	09/21/14 17:25	09/25/14 12:10	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**450**	ug/L	375	1	09/21/14 17:25	09/25/14 12:28	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:28	7440-36-0	
Arsenic, Dissolved	**406**	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:28	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 12:28	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:28	7440-43-9	
Chromium, Dissolved	**81.7**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:28	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:28	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:28	7440-50-8	
Iron, Dissolved	**114000**	ug/L	250	1	09/21/14 17:25	09/25/14 12:28	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:28	7439-92-1	
Nickel, Dissolved	**61.3**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:28	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 12:28	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 12:28	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/21/14 17:25	09/25/14 12:28	7440-28-0	
Zinc, Dissolved	**390**	ug/L	250	1	09/21/14 17:25	09/25/14 12:28	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/20/14 15:20	09/21/14 14:32	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	09/21/14 16:45	09/22/14 09:07	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/23/14 00:00	09/24/14 19:08	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/23/14 00:00	09/24/14 19:08	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**2180**	ug/L	2000	1	09/23/14 00:00	09/24/14 19:08		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

Sample: T1-010 **Lab ID: 60178355001** Collected: 09/18/14 10:38 Received: 09/19/14 01:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	87-86-5	
Phenol	**3160**	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:08	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	99	%	33-120	1	09/23/14 00:00	09/24/14 19:08	4165-60-0	
2-Fluorobiphenyl (S)	81	%	39-120	1	09/23/14 00:00	09/24/14 19:08	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	1	09/23/14 00:00	09/24/14 19:08	1718-51-0	
Phenol-d6 (S)	27	%	11-120	1	09/23/14 00:00	09/24/14 19:08	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	1	09/23/14 00:00	09/24/14 19:08	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	1	09/23/14 00:00	09/24/14 19:08	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**65400**	ug/L	1000	100		09/20/14 01:04	67-64-1	M1,N2
Benzene	ND	ug/L	100	100		09/20/14 01:04	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/20/14 01:04	75-27-4	
Bromoform	ND	ug/L	100	100		09/24/14 14:12	75-25-2	
Bromomethane	ND	ug/L	500	100		09/20/14 01:04	74-83-9	
2-Butanone (MEK)	**26700**	ug/L	1000	100		09/20/14 01:04	78-93-3	M1,N2
Carbon tetrachloride	ND	ug/L	100	100		09/20/14 01:04	56-23-5	
Chloroethane	ND	ug/L	100	100		09/20/14 01:04	75-00-3	
Chloroform	ND	ug/L	100	100		09/20/14 01:04	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/20/14 01:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/20/14 01:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/24/14 14:12	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/20/14 01:04	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/20/14 01:04	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/20/14 01:04	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/20/14 01:04	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/20/14 01:04	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/20/14 01:04	127-18-4	
Toluene	ND	ug/L	100	100		09/20/14 01:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/20/14 01:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/20/14 01:04	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/20/14 01:04	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/20/14 01:04	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/20/14 01:04	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	110	%	80-120	100		09/20/14 01:04	460-00-4	
Toluene-d8 (S)	99	%	80-120	100		09/20/14 01:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	100		09/20/14 01:04	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/20/14 01:04		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**280**	mg/L	5.0	1		09/20/14 08:49		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

Sample: T1-010 **Lab ID: 60178355001** Collected: 09/18/14 10:38 Received: 09/19/14 01:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.0**	mg/L	5.0	1		09/20/14 09:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2870**	mg/L	5.0	1		09/24/14 10:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/23/14 09:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**12900**	mg/L	2.0	1	09/19/14 16:10	09/24/14 17:34		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**185**	mg/L	10.0	100		09/22/14 13:06	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**25500**	mg/L	2500	250		09/25/14 09:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

Sample: TRIP BLANK **Lab ID: 60178355002** Collected: 09/18/14 10:38 Received: 09/19/14 01:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/24/14 10:10	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/20/14 01:35	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/20/14 01:35	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/24/14 10:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/20/14 01:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/20/14 01:35	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/20/14 01:35	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/20/14 01:35	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/20/14 01:35	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/20/14 01:35	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/20/14 01:35	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 10:10	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/20/14 01:35	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/20/14 01:35	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/20/14 01:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/20/14 01:35	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/20/14 01:35	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/20/14 01:35	127-18-4	
Toluene	ND	ug/L	1.0	1		09/20/14 01:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/20/14 01:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/20/14 01:35	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/20/14 01:35	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/20/14 01:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/20/14 01:35	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	111	%	80-120	1		09/20/14 01:35	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/20/14 01:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		09/20/14 01:35	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/20/14 01:35		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MERP/8823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178355001

METHOD BLANK: 1445806 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/21/14 14:01	

LABORATORY CONTROL SAMPLE: 1445807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE SAMPLE: 1445810

Parameter	Units	60178232002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	1.9	37	70-130	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1445986 1445987

Parameter	Units	60178106001 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	95.4	92.4	64	62	70-130	3	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MERP/8837
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178355001

METHOD BLANK: 1447069 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/22/14 08:55	

LABORATORY CONTROL SAMPLE: 1447070

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447071 1447072

Parameter	Units	60178223001 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	82.2	78.9	55	53	70-130	4	20	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MPRP/29018
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178355001

METHOD BLANK: 1446922
Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/25/14 11:51	
Antimony	ug/L	ND	10.0	09/25/14 11:51	
Arsenic	ug/L	ND	10.0	09/25/14 11:51	
Beryllium	ug/L	ND	1.0	09/25/14 11:51	
Cadmium	ug/L	ND	5.0	09/25/14 11:51	
Chromium	ug/L	ND	5.0	09/25/14 11:51	
Cobalt	ug/L	ND	5.0	09/25/14 11:51	
Copper	ug/L	ND	10.0	09/25/14 11:51	
Iron	ug/L	ND	50.0	09/25/14 11:51	
Lead	ug/L	ND	5.0	09/25/14 11:51	
Nickel	ug/L	ND	5.0	09/25/14 11:51	
Selenium	ug/L	ND	15.0	09/25/14 11:51	
Silver	ug/L	ND	7.0	09/25/14 11:51	
Thallium	ug/L	ND	20.0	09/25/14 11:51	
Zinc	ug/L	ND	50.0	09/25/14 11:51	

LABORATORY CONTROL SAMPLE: 1446923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	995	100	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	998	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	981	98	85-115	
Silver	ug/L	500	491	98	85-115	
Thallium	ug/L	1000	1000	100	85-115	
Zinc	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1446924 1446925

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4300	50000	50000	58800	55800	109	103	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5440	5100	109	102	70-130	6	7	
Arsenic	ug/L	532	5000	5000	5950	5550	108	100	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	5010	4790	100	96	70-130	4	7	
Cadmium	ug/L	ND	5000	5000	5280	4950	106	99	70-130	6	10	
Chromium	ug/L	124	5000	5000	4840	4500	94	88	70-130	7	10	
Cobalt	ug/L	ND	5000	5000	5080	4760	101	95	70-130	6	6	
Copper	ug/L	ND	5000	5000	5450	5100	109	102	70-130	7	11	
Iron	ug/L	382000	50000	50000	440000	406000	115	47	70-130	8	10	M1
Lead	ug/L	60.6	5000	5000	4890	4580	97	90	70-130	7	10	
Nickel	ug/L	75.4	5000	5000	5060	4760	100	94	70-130	6	10	
Selenium	ug/L	ND	5000	5000	5510	5130	110	103	70-130	7	10	
Silver	ug/L	ND	2500	2500	2620	2460	105	98	70-130	6	10	
Thallium	ug/L	ND	5000	5000	4630	4380	93	88	70-130	6	6	
Zinc	ug/L	1770	5000	5000	6480	6000	94	84	70-130	8	11	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MPRP/29032
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178355001

METHOD BLANK: 1447065
Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/25/14 12:17	
Antimony, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Arsenic, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Beryllium, Dissolved	ug/L	ND	1.0	09/25/14 12:17	
Cadmium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Chromium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Cobalt, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Copper, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Iron, Dissolved	ug/L	ND	50.0	09/25/14 12:17	
Lead, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Nickel, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Selenium, Dissolved	ug/L	ND	15.0	09/25/14 12:17	
Silver, Dissolved	ug/L	ND	7.0	09/25/14 12:17	
Thallium, Dissolved	ug/L	ND	20.0	09/25/14 12:17	
Zinc, Dissolved	ug/L	ND	50.0	09/25/14 12:17	

LABORATORY CONTROL SAMPLE: 1447066

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	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	988	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	967	97	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	10600	106	85-115	
Lead, Dissolved	ug/L	1000	992	99	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447067 1447068

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	56600	54800	112	109	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5840	5610	117	112	70-130	4	7	
Arsenic, Dissolved	ug/L	398	5000	5000	6020	5790	112	108	70-130	4	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5460	5310	109	106	70-130	3	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5620	5420	112	108	70-130	4	10	
Chromium, Dissolved	ug/L	71.4	5000	5000	5100	4940	101	97	70-130	3	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5480	5290	109	106	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5740	5560	115	111	70-130	3	11	
Iron, Dissolved	ug/L	75600	50000	50000	133000	128000	114	106	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	5210	5040	104	101	70-130	3	10	
Nickel, Dissolved	ug/L	58.4	5000	5000	5450	5260	108	104	70-130	3	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5700	5520	114	110	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2750	2660	110	106	70-130	3	10	
Thallium, Dissolved	ug/L	ND	5000	5000	5140	4980	103	100	70-130	3	6	
Zinc, Dissolved	ug/L	307	5000	5000	5380	5200	101	98	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MSV/64517 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178355001, 60178355002

METHOD BLANK: 1445971 Matrix: Water
Associated Lab Samples: 60178355001, 60178355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/20/14 00:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/20/14 00:03	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/20/14 00:03	
1,2-Dichloroethane	ug/L	ND	1.0	09/20/14 00:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/20/14 00:03	
2-Butanone (MEK)	ug/L	ND	10.0	09/20/14 00:03	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/20/14 00:03	N2
Acetone	ug/L	ND	10.0	09/20/14 00:03	N2
Benzene	ug/L	ND	1.0	09/20/14 00:03	
Bromodichloromethane	ug/L	ND	1.0	09/20/14 00:03	
Bromomethane	ug/L	ND	5.0	09/20/14 00:03	
Carbon tetrachloride	ug/L	ND	1.0	09/20/14 00:03	
Chloroethane	ug/L	ND	1.0	09/20/14 00:03	
Chloroform	ug/L	ND	1.0	09/20/14 00:03	
Ethylbenzene	ug/L	ND	1.0	09/20/14 00:03	
Methylene chloride	ug/L	ND	1.0	09/20/14 00:03	
Tetrachloroethene	ug/L	ND	1.0	09/20/14 00:03	
Toluene	ug/L	ND	1.0	09/20/14 00:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/20/14 00:03	
Trichloroethene	ug/L	ND	1.0	09/20/14 00:03	
Vinyl chloride	ug/L	ND	1.0	09/20/14 00:03	
Xylene (Total)	ug/L	ND	3.0	09/20/14 00:03	N2
1,2-Dichloroethane-d4 (S)	%	98	80-120	09/20/14 00:03	
4-Bromofluorobenzene (S)	%	109	80-120	09/20/14 00:03	
Toluene-d8 (S)	%	100	80-120	09/20/14 00:03	

LABORATORY CONTROL SAMPLE: 1445972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.6	103	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.0	95	67-124	
1,2-Dichloroethane	ug/L	20	19.6	98	70-126	
1,4-Dichlorobenzene	ug/L	20	19.2	96	74-120	
2-Butanone (MEK)	ug/L	100	78.6	79	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	89.6	90	59-131	N2
Acetone	ug/L	100	84.7	85	38-134	N2
Benzene	ug/L	20	18.9	94	75-120	
Bromodichloromethane	ug/L	20	18.1	91	68-125	
Bromomethane	ug/L	20	6.3	32	13-157	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

LABORATORY CONTROL SAMPLE: 1445972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	20	14.4	72	70-131	
Chloroethane	ug/L	20	20.1	101	47-133	
Chloroform	ug/L	20	14.9	75	65-127	
Ethylbenzene	ug/L	20	18.2	91	74-122	
Methylene chloride	ug/L	20	17.4	87	64-129	
Tetrachloroethene	ug/L	20	18.5	93	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	66-129	
Trichloroethene	ug/L	20	19.2	96	71-123	
Vinyl chloride	ug/L	20	16.2	81	43-129	
Xylene (Total)	ug/L	60	51.3	85	75-121	N2
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			106	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1445973

Parameter	Units	60178355001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	1990	99	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	2710	136	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	2330	116	52-143	
1,2-Dichloroethane	ug/L	ND	2000	2350	118	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	2500	123	33-140	
2-Butanone (MEK)	ug/L	26700	10000	44900	182	40-160	M1,N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	10800	106	40-160	N2
Acetone	ug/L	65400	10000	97500	321	10-160	M1,N2
Benzene	ug/L	ND	2000	2360	118	37-151	
Bromodichloromethane	ug/L	ND	2000	2190	110	35-142	
Bromomethane	ug/L	ND	2000	736	36	10-158	
Carbon tetrachloride	ug/L	ND	2000	1960	98	70-140	
Chloroethane	ug/L	ND	2000	2600	130	19-152	
Chloroform	ug/L	ND	2000	1790	89	51-138	
Ethylbenzene	ug/L	ND	2000	2330	117	40-142	
Methylene chloride	ug/L	ND	2000	2160	108	31-144	
Tetrachloroethene	ug/L	ND	2000	2460	123	64-148	
Toluene	ug/L	ND	2000	2390	119	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	2100	105	54-151	
Trichloroethene	ug/L	ND	2000	2320	116	71-149	
Vinyl chloride	ug/L	ND	2000	2170	108	22-146	
Xylene (Total)	ug/L	ND	6000	6680	111	37-144	N2
1,2-Dichloroethane-d4 (S)	%				95	80-120	
4-Bromofluorobenzene (S)	%				107	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: MSV/64597 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178355001, 60178355002

METHOD BLANK: 1448086 Matrix: Water
Associated Lab Samples: 60178355001, 60178355002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acetone	ug/L	ND	10.0	09/24/14 09:21	N2
Bromoform	ug/L	ND	1.0	09/24/14 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/24/14 09:21	
4-Bromofluorobenzene (S)	%	98	80-120	09/24/14 09:21	
Toluene-d8 (S)	%	98	80-120	09/24/14 09:21	

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	100	94.2	94	38-134	N2
Bromoform	ug/L	20	19.7	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	66700	20000	86400	98	10-160	N2
Bromoform	ug/L	ND	4000	3640	91	45-142	
cis-1,2-Dichloroethene	ug/L	ND	4000	4120	103	34-147	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	HS
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: OEXT/46244
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178355001

METHOD BLANK: 1447367
Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/24/14 18:26	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/24/14 18:26	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/24/14 18:26	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/24/14 18:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachloroethane	ug/L	ND	5.0	09/24/14 18:26	
Naphthalene	ug/L	ND	5.0	09/24/14 18:26	
Nitrobenzene	ug/L	ND	5.0	09/24/14 18:26	
Pentachlorophenol	ug/L	ND	5.0	09/24/14 18:26	
Phenol	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Tribromophenol (S)	%	79	39-120	09/24/14 18:26	
2-Fluorobiphenyl (S)	%	74	39-120	09/24/14 18:26	
2-Fluorophenol (S)	%	32	17-120	09/24/14 18:26	
Nitrobenzene-d5 (S)	%	74	33-120	09/24/14 18:26	
Phenol-d6 (S)	%	22	11-120	09/24/14 18:26	
Terphenyl-d14 (S)	%	87	45-120	09/24/14 18:26	

LABORATORY CONTROL SAMPLE: 1447368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.6	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.3	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.5	59	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.3	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.2	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	40.5	41	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	46.5	93	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			25	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 T1-010
Pace Project No.: 60178355

MATRIX SPIKE SAMPLE: 1447369

Parameter	Units	60178413001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.5	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.7	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.8	56	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	51.9	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	35.2	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	40.0	40	11-120	
Hexachloroethane	ug/L	ND	50	35.2	70	40-113	
Naphthalene	ug/L	ND	50	36.3	73	45-120	
Nitrobenzene	ug/L	ND	50	36.6	73	38-120	
Pentachlorophenol	ug/L	ND	50	48.6	97	43-135	
Phenol	ug/L	ND	50	13.5	27	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				24	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WET/50404 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178355001

METHOD BLANK: 1446986 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/20/14 08:45	

LABORATORY CONTROL SAMPLE: 1446987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.5	99	78-114	

MATRIX SPIKE SAMPLE: 1446989

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.6	44.7	98	78-114	

SAMPLE DUPLICATE: 1446988

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.7	25.2	20	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WET/50405 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178355001

METHOD BLANK: 1446990 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/20/14 09:45	

LABORATORY CONTROL SAMPLE: 1446991

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

MATRIX SPIKE SAMPLE: 1446993

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	13.4	60	64-132	M1

SAMPLE DUPLICATE: 1446992

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.9J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WET/50466 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178355001

METHOD BLANK: 1448077 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/24/14 10:12	

SAMPLE DUPLICATE: 1448078

Parameter	Units	60178353001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	8.0		10	

SAMPLE DUPLICATE: 1448079

Parameter	Units	60178363001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	13.0	7	10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WET/50442
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178355001

SAMPLE DUPLICATE: 1447442

Parameter	Units	60178231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WET/50393 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178355001

METHOD BLANK: 1446025 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/24/14 16:30	

LABORATORY CONTROL SAMPLE: 1446026

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	97	85-115	

SAMPLE DUPLICATE: 1446027

Parameter	Units	60178376001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	874	907	4	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WETA/31085 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178355001

METHOD BLANK: 1447048 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 12:38	

LABORATORY CONTROL SAMPLE: 1447049

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

MATRIX SPIKE SAMPLE: 1447050

Parameter	Units	60177699002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.0	2	2.7	86	90-110	M1

MATRIX SPIKE SAMPLE: 1447051

Parameter	Units	60177700002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	15.1	10	23.4	83	90-110	M1

SAMPLE DUPLICATE: 1447052

Parameter	Units	60177701002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

QC Batch: WETA/31124
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178355001

METHOD BLANK: 1448203 Matrix: Water
Associated Lab Samples: 60178355001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/25/14 09:18	

LABORATORY CONTROL SAMPLE: 1448204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.4	109	90-110	

MATRIX SPIKE SAMPLE: 1448205

Parameter	Units	40103107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	24.7	50	89.1	129	90-110	M1

MATRIX SPIKE SAMPLE: 1448207

Parameter	Units	60177993004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3760	2500	6080	93	90-110	

SAMPLE DUPLICATE: 1448206

Parameter	Units	60177910001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	17.0	11.1	42	25	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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QUALIFIERS

Project: BRIDGETON LF T1-010
Pace Project No.: 60178355

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 T1-010
Pace Project No.: 60178355

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178355001	**T1-010**	EPA 200.7	MPRP/29018	EPA 200.7	ICP/21847
60178355001	**T1-010**	EPA 200.7	MPRP/29032	EPA 200.7	ICP/21848
60178355001	**T1-010**	EPA 245.1	MERP/8823	EPA 245.1	MERC/8787
60178355001	**T1-010**	EPA 245.1	MERP/8837	EPA 245.1	MERC/8792
60178355001	**T1-010**	EPA 625	OEXT/46244	EPA 625	MSSV/14861
60178355001	**T1-010**	EPA 624 Low	MSV/64517		
60178355001	**T1-010**	EPA 624 Low	MSV/64597		
60178355002	**TRIP BLANK**	EPA 624 Low	MSV/64517		
60178355002	**TRIP BLANK**	EPA 624 Low	MSV/64597		
60178355001	**T1-010**	EPA 1664A	WET/50404		
60178355001	**T1-010**	EPA 1664A	WET/50405		
60178355001	**T1-010**	SM 2540D	WET/50466		
60178355001	**T1-010**	SM 4500-H+B	WET/50442		
60178355001	**T1-010**	SM 5210B	WET/50393	SM 5210B	WET/50489
60178355001	**T1-010**	EPA 350.1	WETA/31085		
60178355001	**T1-010**	EPA 410.4	WETA/31124		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60178355

60178355

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 ☐

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: CW 9-19-14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. 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	Initial pH 6.0 added 2.5 mL HNO_3
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	Final pH 4.0
		14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed CW Lot # of added preservative 1251 3-87-10 12787-14-8
Trip Blank present:	☑Yes ☐No ☐N/A	-Pcw 9-19
Pace Trip Blank lot # (if purchased): ordered		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: 9/19/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	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)	60178355
1	T1-010 BP3S BP3N	OT	G	9/18/14	1038	—	—		15	10	4	1	0	2(BP2U)			5(DG9U)		x	x	x	x	x	x	x	x	x	x	BP3U	2(A64U) 3(A62.5)
2	TRIP BLANK	—	—	—	—	—	—		2	2															x		2(D69U)			
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	Ryan Brian	9/18/14	12:00	[signature]	9/18/14	12:00				
SITE ADDRESS: BRIDGETON LF				[signature] (+ White PACE)	9/19/14	0145	3.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	WILLIAM ABERNATHY					
SIGNATURE of SAMPLER:	[signature]	DATE Signed: 9/18/14				

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

September 29, 2014

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

RE: Project: BRIDGETON T1-011
Pace Project No.: 60178474

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 20, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

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 T1-011
Pace Project No.: 60178474

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178474001	**T1-011**	Water	09/19/14 10:40	09/20/14 01:35
60178474002	**TRIP BLANK**	Water	09/19/14 10:40	09/20/14 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178474001	**T1-011**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	ZBM	1
		EPA 245.1	ZBM	1
		EPA 625	JMT	18
		EPA 624 Low	PRG	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178474002	**TRIP BLANK**	EPA 624 Low	PRG	28

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PROJECT NARRATIVE

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Date: September 29, 2014

The sample volume received for volatile analysis for leachate sample T1-011 contained head space presence greater than 6mm. Per historical instructions, the analysis is completed and the presence noted.

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ANALYTICAL RESULTS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Sample: T1-011 **Lab ID: 60178474001** Collected: 09/19/14 10:40 Received: 09/20/14 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	**4500**	ug/L	375	1	09/21/14 17:25	09/25/14 12:13	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:13	7440-36-0	
Arsenic	**572**	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 12:13	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:13	7440-43-9	
Chromium	**138**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:13	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:13	7440-48-4	
Copper	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:13	7440-50-8	
Iron	**392000**	ug/L	250	1	09/21/14 17:25	09/25/14 12:13	7439-89-6	
Lead	**72.6**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:13	7439-92-1	
Nickel	**77.9**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 12:13	7782-49-2	
Silver	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 12:13	7440-22-4	
Thallium	ND	ug/L	100	1	09/21/14 17:25	09/25/14 12:13	7440-28-0	
Zinc	**1720**	ug/L	250	1	09/21/14 17:25	09/25/14 12:13	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	09/21/14 17:25	09/25/14 12:31	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:31	7440-36-0	
Arsenic, Dissolved	**351**	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:31	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/21/14 17:25	09/25/14 12:31	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:31	7440-43-9	
Chromium, Dissolved	**68.8**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:31	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:31	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/21/14 17:25	09/25/14 12:31	7440-50-8	
Iron, Dissolved	**44400**	ug/L	250	1	09/21/14 17:25	09/25/14 12:31	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:31	7439-92-1	
Nickel, Dissolved	**59.5**	ug/L	25.0	1	09/21/14 17:25	09/25/14 12:31	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/21/14 17:25	09/25/14 12:31	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/21/14 17:25	09/25/14 12:31	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/21/14 17:25	09/25/14 12:31	7440-28-0	
Zinc, Dissolved	**305**	ug/L	250	1	09/21/14 17:25	09/25/14 12:31	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/21/14 12:15	09/22/14 08:10	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	09/21/14 16:45	09/22/14 09:09	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/23/14 00:00	09/24/14 19:29	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/23/14 00:00	09/24/14 19:29	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**2930**	ug/L	2000	1	09/23/14 00:00	09/24/14 19:29		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Sample: T1-011 **Lab ID: 60178474001** Collected: 09/19/14 10:40 Received: 09/20/14 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	500	1	09/23/14 00:00	09/24/14 19:29	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	87-86-5	
Phenol	**5770**	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:29	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	94	%	33-120	1	09/23/14 00:00	09/24/14 19:29	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	1	09/23/14 00:00	09/24/14 19:29	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	1	09/23/14 00:00	09/24/14 19:29	1718-51-0	
Phenol-d6 (S)	50	%	11-120	1	09/23/14 00:00	09/24/14 19:29	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	1	09/23/14 00:00	09/24/14 19:29	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	1	09/23/14 00:00	09/24/14 19:29	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**66700**	ug/L	2000	200		09/24/14 13:40	67-64-1	N2
Benzene	ND	ug/L	200	200		09/24/14 13:40	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/24/14 13:40	75-27-4	
Bromoform	ND	ug/L	200	200		09/24/14 13:40	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/24/14 13:40	74-83-9	
2-Butanone (MEK)	**29400**	ug/L	2000	200		09/24/14 13:40	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/24/14 13:40	56-23-5	
Chloroethane	ND	ug/L	200	200		09/24/14 13:40	75-00-3	
Chloroform	ND	ug/L	200	200		09/24/14 13:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/24/14 13:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/24/14 13:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:40	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:40	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/24/14 13:40	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/24/14 13:40	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/24/14 13:40	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/24/14 13:40	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/24/14 13:40	127-18-4	
Toluene	ND	ug/L	200	200		09/24/14 13:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/24/14 13:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/24/14 13:40	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/24/14 13:40	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/24/14 13:40	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/24/14 13:40	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		09/24/14 13:40	460-00-4	HS
Toluene-d8 (S)	99	%	80-120	200		09/24/14 13:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		09/24/14 13:40	17060-07-0	
Preservation pH	**7.0**		1.0	200		09/24/14 13:40		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**180**	mg/L	5.0	1		09/20/14 08:49		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Sample: T1-011 **Lab ID: 60178474001** Collected: 09/19/14 10:40 Received: 09/20/14 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	**6.0**	mg/L	5.0	1		09/20/14 09:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1560**	mg/L	5.0	1		09/24/14 14:15		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/23/14 09:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**10600**	mg/L	2.0	1	09/20/14 10:07	09/25/14 11:37		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**159**	mg/L	5.0	50		09/22/14 13:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**24200**	mg/L	2500	250		09/25/14 09:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

Sample: TRIP BLANK **Lab ID: 60178474002** Collected: 09/19/14 10:40 Received: 09/20/14 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		09/24/14 10:42	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/24/14 10:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/24/14 10:42	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/24/14 10:42	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/24/14 10:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/24/14 10:42	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/24/14 10:42	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/24/14 10:42	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/24/14 10:42	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/24/14 10:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/24/14 10:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 10:42	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 10:42	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/24/14 10:42	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/24/14 10:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/24/14 10:42	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/24/14 10:42	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/24/14 10:42	127-18-4	
Toluene	ND	ug/L	1.0	1		09/24/14 10:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/24/14 10:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/24/14 10:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/24/14 10:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/24/14 10:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/24/14 10:42	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/24/14 10:42	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/24/14 10:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/24/14 10:42	17060-07-0	
Preservation pH	**7.0**		1.0	1		09/24/14 10:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: MERP/8836
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178474001

METHOD BLANK: 1447033 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/22/14 08:06	

LABORATORY CONTROL SAMPLE: 1447034

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: 1447035 1447036

Parameter	Units	60178474001 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	81.6	78.0	51	49	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: MERP/8837
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178474001

METHOD BLANK: 1447069 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/22/14 08:55	

LABORATORY CONTROL SAMPLE: 1447070

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447071 1447072

Parameter	Units	60178223001 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	82.2	78.9	55	53	70-130	4	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: MPRP/29018
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178474001

METHOD BLANK: 1446922 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/25/14 11:51	
Antimony	ug/L	ND	10.0	09/25/14 11:51	
Arsenic	ug/L	ND	10.0	09/25/14 11:51	
Beryllium	ug/L	ND	1.0	09/25/14 11:51	
Cadmium	ug/L	ND	5.0	09/25/14 11:51	
Chromium	ug/L	ND	5.0	09/25/14 11:51	
Cobalt	ug/L	ND	5.0	09/25/14 11:51	
Copper	ug/L	ND	10.0	09/25/14 11:51	
Iron	ug/L	ND	50.0	09/25/14 11:51	
Lead	ug/L	ND	5.0	09/25/14 11:51	
Nickel	ug/L	ND	5.0	09/25/14 11:51	
Selenium	ug/L	ND	15.0	09/25/14 11:51	
Silver	ug/L	ND	7.0	09/25/14 11:51	
Thallium	ug/L	ND	20.0	09/25/14 11:51	
Zinc	ug/L	ND	50.0	09/25/14 11:51	

LABORATORY CONTROL SAMPLE: 1446923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	980	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	995	100	85-115	
Chromium	ug/L	1000	950	95	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	998	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	981	98	85-115	
Silver	ug/L	500	491	98	85-115	
Thallium	ug/L	1000	1000	100	85-115	
Zinc	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1446924 1446925

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4300	50000	50000	58800	55800	109	103	70-130	5	8	
Antimony	ug/L	ND	5000	5000	5440	5100	109	102	70-130	6	7	
Arsenic	ug/L	532	5000	5000	5950	5550	108	100	70-130	7	10	
Beryllium	ug/L	ND	5000	5000	5010	4790	100	96	70-130	4	7	
Cadmium	ug/L	ND	5000	5000	5280	4950	106	99	70-130	6	10	
Chromium	ug/L	124	5000	5000	4840	4500	94	88	70-130	7	10	
Cobalt	ug/L	ND	5000	5000	5080	4760	101	95	70-130	6	6	
Copper	ug/L	ND	5000	5000	5450	5100	109	102	70-130	7	11	
Iron	ug/L	382000	50000	50000	440000	406000	115	47	70-130	8	10	M1
Lead	ug/L	60.6	5000	5000	4890	4580	97	90	70-130	7	10	
Nickel	ug/L	75.4	5000	5000	5060	4760	100	94	70-130	6	10	
Selenium	ug/L	ND	5000	5000	5510	5130	110	103	70-130	7	10	
Silver	ug/L	ND	2500	2500	2620	2460	105	98	70-130	6	10	
Thallium	ug/L	ND	5000	5000	4630	4380	93	88	70-130	6	6	
Zinc	ug/L	1770	5000	5000	6480	6000	94	84	70-130	8	11	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: MPRP/29032
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178474001

METHOD BLANK: 1447065
Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/25/14 12:17	
Antimony, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Arsenic, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Beryllium, Dissolved	ug/L	ND	1.0	09/25/14 12:17	
Cadmium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Chromium, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Cobalt, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Copper, Dissolved	ug/L	ND	10.0	09/25/14 12:17	
Iron, Dissolved	ug/L	ND	50.0	09/25/14 12:17	
Lead, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Nickel, Dissolved	ug/L	ND	5.0	09/25/14 12:17	
Selenium, Dissolved	ug/L	ND	15.0	09/25/14 12:17	
Silver, Dissolved	ug/L	ND	7.0	09/25/14 12:17	
Thallium, Dissolved	ug/L	ND	20.0	09/25/14 12:17	
Zinc, Dissolved	ug/L	ND	50.0	09/25/14 12:17	

LABORATORY CONTROL SAMPLE: 1447066

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	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	988	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	967	97	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	10600	106	85-115	
Lead, Dissolved	ug/L	1000	992	99	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	502	100	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447067 1447068

Parameter	Units	60178223001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	56600	54800	112	109	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5840	5610	117	112	70-130	4	7	
Arsenic, Dissolved	ug/L	398	5000	5000	6020	5790	112	108	70-130	4	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5460	5310	109	106	70-130	3	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5620	5420	112	108	70-130	4	10	
Chromium, Dissolved	ug/L	71.4	5000	5000	5100	4940	101	97	70-130	3	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5480	5290	109	106	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5740	5560	115	111	70-130	3	11	
Iron, Dissolved	ug/L	75600	50000	50000	133000	128000	114	106	70-130	3	10	
Lead, Dissolved	ug/L	ND	5000	5000	5210	5040	104	101	70-130	3	10	
Nickel, Dissolved	ug/L	58.4	5000	5000	5450	5260	108	104	70-130	3	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5700	5520	114	110	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2750	2660	110	106	70-130	3	10	
Thallium, Dissolved	ug/L	ND	5000	5000	5140	4980	103	100	70-130	3	6	
Zinc, Dissolved	ug/L	307	5000	5000	5380	5200	101	98	70-130	3	11	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: MSV/64597 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178474001, 60178474002

METHOD BLANK: 1448086 Matrix: Water
Associated Lab Samples: 60178474001, 60178474002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/24/14 09:21	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,2-Dichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/24/14 09:21	
2-Butanone (MEK)	ug/L	ND	10.0	09/24/14 09:21	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/24/14 09:21	N2
Acetone	ug/L	ND	10.0	09/24/14 09:21	N2
Benzene	ug/L	ND	1.0	09/24/14 09:21	
Bromodichloromethane	ug/L	ND	1.0	09/24/14 09:21	
Bromoform	ug/L	ND	1.0	09/24/14 09:21	
Bromomethane	ug/L	ND	5.0	09/24/14 09:21	
Carbon tetrachloride	ug/L	ND	1.0	09/24/14 09:21	
Chloroethane	ug/L	ND	1.0	09/24/14 09:21	
Chloroform	ug/L	ND	1.0	09/24/14 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	N2
Ethylbenzene	ug/L	ND	1.0	09/24/14 09:21	
Methylene chloride	ug/L	ND	1.0	09/24/14 09:21	
Tetrachloroethene	ug/L	ND	1.0	09/24/14 09:21	
Toluene	ug/L	ND	1.0	09/24/14 09:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Trichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Vinyl chloride	ug/L	ND	1.0	09/24/14 09:21	
Xylene (Total)	ug/L	ND	3.0	09/24/14 09:21	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/24/14 09:21	
4-Bromofluorobenzene (S)	%	98	80-120	09/24/14 09:21	
Toluene-d8 (S)	%	98	80-120	09/24/14 09:21	

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.3	106	67-124	
1,2-Dichloroethane	ug/L	20	20.1	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	96.1	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	94.2	94	38-134	N2
Benzene	ug/L	20	19.5	97	75-120	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.7	99	65-127	
Bromomethane	ug/L	20	23.0	115	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.4	92	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	19.0	95	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	66-129	
Trichloroethene	ug/L	20	21.0	105	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	62.5	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4190	105	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3830	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3900	97	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4040	101	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3840	96	33-140	
2-Butanone (MEK)	ug/L	29400	20000	47800	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19000	93	40-160	N2
Acetone	ug/L	66700	20000	86400	98	10-160	N2
Benzene	ug/L	ND	4000	3900	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4110	103	35-142	
Bromoform	ug/L	ND	4000	3640	91	45-142	
Bromomethane	ug/L	ND	4000	3620	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4130	103	70-140	
Chloroethane	ug/L	ND	4000	3380	84	19-152	
Chloroform	ug/L	ND	4000	3940	98	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4120	103	34-147	N2
Ethylbenzene	ug/L	ND	4000	4110	103	40-142	
Methylene chloride	ug/L	ND	4000	3630	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4210	105	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-151	
Trichloroethene	ug/L	ND	4000	4220	105	71-149	
Vinyl chloride	ug/L	ND	4000	3190	80	22-146	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12500	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	HS
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: OEXT/46244
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178474001

METHOD BLANK: 1447367
Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/24/14 18:26	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/24/14 18:26	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/24/14 18:26	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/24/14 18:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachloroethane	ug/L	ND	5.0	09/24/14 18:26	
Naphthalene	ug/L	ND	5.0	09/24/14 18:26	
Nitrobenzene	ug/L	ND	5.0	09/24/14 18:26	
Pentachlorophenol	ug/L	ND	5.0	09/24/14 18:26	
Phenol	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Tribromophenol (S)	%	79	39-120	09/24/14 18:26	
2-Fluorobiphenyl (S)	%	74	39-120	09/24/14 18:26	
2-Fluorophenol (S)	%	32	17-120	09/24/14 18:26	
Nitrobenzene-d5 (S)	%	74	33-120	09/24/14 18:26	
Phenol-d6 (S)	%	22	11-120	09/24/14 18:26	
Terphenyl-d14 (S)	%	87	45-120	09/24/14 18:26	

LABORATORY CONTROL SAMPLE: 1447368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.6	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.3	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.5	59	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.3	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.2	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	40.5	41	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	46.5	93	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			25	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 T1-011
Pace Project No.: 60178474

MATRIX SPIKE SAMPLE: 1447369

Parameter	Units	60178413001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.5	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.7	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.8	56	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	51.9	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	35.2	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	40.0	40	11-120	
Hexachloroethane	ug/L	ND	50	35.2	70	40-113	
Naphthalene	ug/L	ND	50	36.3	73	45-120	
Nitrobenzene	ug/L	ND	50	36.6	73	38-120	
Pentachlorophenol	ug/L	ND	50	48.6	97	43-135	
Phenol	ug/L	ND	50	13.5	27	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				24	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WET/50404 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178474001

METHOD BLANK: 1446986 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/20/14 08:45	

LABORATORY CONTROL SAMPLE: 1446987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.5	99	78-114	

MATRIX SPIKE SAMPLE: 1446989

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.6	44.7	98	78-114	

SAMPLE DUPLICATE: 1446988

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	20.7	25.2	20	18	D6

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WET/50405 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178474001

METHOD BLANK: 1446990 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/20/14 09:45	

LABORATORY CONTROL SAMPLE: 1446991

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

MATRIX SPIKE SAMPLE: 1446993

Parameter	Units	60177985001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	13.4	60	64-132	M1

SAMPLE DUPLICATE: 1446992

Parameter	Units	60177858002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.9J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WET/50472
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178474001

METHOD BLANK: 1448269
Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/24/14 14:14	

SAMPLE DUPLICATE: 1448270

Parameter	Units	60178450002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	400	312	25	10	D6

SAMPLE DUPLICATE: 1448271

Parameter	Units	60178473004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3300	2200	40	10	D6

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WET/50442
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178474001

SAMPLE DUPLICATE: 1447442

Parameter	Units	60178231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WET/50402 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178474001

METHOD BLANK: 1446576 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/25/14 11:13	

LABORATORY CONTROL SAMPLE: 1446577

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	195	98	85-115	

SAMPLE DUPLICATE: 1446578

Parameter	Units	60178369003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	18.4	19.1	4	17	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-011
Pace Project No.: 60178474

QC Batch: WETA/31085 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178474001

METHOD BLANK: 1447048 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/22/14 12:38	

LABORATORY CONTROL SAMPLE: 1447049

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

MATRIX SPIKE SAMPLE: 1447050

Parameter	Units	60177699002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.0	2	2.7	86	90-110	M1

MATRIX SPIKE SAMPLE: 1447051

Parameter	Units	60177700002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	15.1	10	23.4	83	90-110	M1

SAMPLE DUPLICATE: 1447052

Parameter	Units	60177701002 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 T1-011
Pace Project No.: 60178474

QC Batch: WETA/31124
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178474001

METHOD BLANK: 1448203 Matrix: Water
Associated Lab Samples: 60178474001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/25/14 09:18	

LABORATORY CONTROL SAMPLE: 1448204

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.4	109	90-110	

MATRIX SPIKE SAMPLE: 1448205

Parameter	Units	40103107001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	24.7	50	89.1	129	90-110	M1

MATRIX SPIKE SAMPLE: 1448207

Parameter	Units	60177993004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	3760	2500	6080	93	90-110	

SAMPLE DUPLICATE: 1448206

Parameter	Units	60177910001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	17.0	11.1	42	25	D6

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON T1-011
Pace Project No.: 60178474

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 T1-011
Pace Project No.: 60178474

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178474001	**T1-011**	EPA 200.7	MPRP/29018	EPA 200.7	ICP/21847
60178474001	**T1-011**	EPA 200.7	MPRP/29032	EPA 200.7	ICP/21848
60178474001	**T1-011**	EPA 245.1	MERP/8836	EPA 245.1	MERC/8789
60178474001	**T1-011**	EPA 245.1	MERP/8837	EPA 245.1	MERC/8792
60178474001	**T1-011**	EPA 625	OEXT/46244	EPA 625	MSSV/14861
60178474001	**T1-011**	EPA 624 Low	MSV/64597		
60178474002	**TRIP BLANK**	EPA 624 Low	MSV/64597		
60178474001	**T1-011**	EPA 1664A	WET/50404		
60178474001	**T1-011**	EPA 1664A	WET/50405		
60178474001	**T1-011**	SM 2540D	WET/50472		
60178474001	**T1-011**	SM 4500-H+B	WET/50442		
60178474001	**T1-011**	SM 5210B	WET/50402	SM 5210B	WET/50501
60178474001	**T1-011**	EPA 350.1	WETA/31085		
60178474001	**T1-011**	EPA 410.4	WETA/31124		

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Sample Condition Upon Receipt

WO#: 60178474

60178474

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: 4.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JB 9/20

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5. BOD pH
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:	OT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	OP35 initial pH 6.0 added 1ml Final pH 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	BP3N initial pH 6.0 added 2.5 ml Final pH 2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed JB / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 9/12/14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 DG4H - ADD COMMENTS
		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: a for MEG Date: 9/20

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)	60178474
1	(2)BP3U T1-011 BP3U (3)AG3S (2)AG4U	OT	G	9/19/14	1040				15	10	4	1	0	DP3S 2+		BP3U 2+			X	X	X	X	X	X	X	X	X	X			(5)DG9U
2	TRIP BLANK (2)DG9U								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	Ryan Brosious	9-19-14	1300		9/19/14	1:00				
SITE ADDRESS: BRIDGETON LF				Ryan	9/20	0135	4.0	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	RYAN BROSIOUS	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER: Ryan Brosious	DATE Signed: 9/19/14				

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

September 29, 2014

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

RE: Project: BRIDGETON T1-012
Pace Project No.: 60178532

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

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 T1-012
Pace Project No.: 60178532

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178532001	**T1-012**	Water	09/20/14 16:40	09/22/14 13:20
60178532002	**TRIP BLANK**	Water	09/20/14 16:40	09/22/14 13:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON T1-012
Pace Project No.: 60178532

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178532001	**T1-012**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	PRG	28
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	JMC1	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178532002	**TRIP BLANK**	EPA 624 Low	PRG	28

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ANALYTICAL RESULTS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

Sample: T1-012 **Lab ID: 60178532001** Collected: 09/20/14 16:40 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**3020**	ug/L	375	1	09/23/14 16:00	09/29/14 13:56	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:56	7440-36-0	
Arsenic	**544**	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:56	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/23/14 16:00	09/29/14 13:56	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:56	7440-43-9	
Chromium	**130**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:56	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:56	7440-48-4	
Copper	ND	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:56	7440-50-8	
Iron	**330000**	ug/L	250	1	09/23/14 16:00	09/29/14 13:56	7439-89-6	
Lead	**57.0**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:56	7439-92-1	
Nickel	**75.1**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:56	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/23/14 16:00	09/29/14 13:56	7782-49-2	
Silver	ND	ug/L	35.0	1	09/23/14 16:00	09/29/14 13:56	7440-22-4	
Thallium	ND	ug/L	100	1	09/23/14 16:00	09/29/14 13:56	7440-28-0	
Zinc	**1590**	ug/L	250	1	09/23/14 16:00	09/29/14 13:56	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	09/25/14 16:45	09/29/14 13:17	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:17	7440-36-0	
Arsenic, Dissolved	**331**	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/25/14 16:45	09/29/14 13:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:17	7440-43-9	
Chromium, Dissolved	**59.7**	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:17	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:17	7440-50-8	
Iron, Dissolved	**38000**	ug/L	250	1	09/25/14 16:45	09/29/14 13:17	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:17	7439-92-1	
Nickel, Dissolved	**48.8**	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/25/14 16:45	09/29/14 13:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/25/14 16:45	09/29/14 13:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/25/14 16:45	09/29/14 13:17	7440-28-0	
Zinc, Dissolved	ND	ug/L	250	1	09/25/14 16:45	09/29/14 13:17	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**8.9**	ug/L	6.0	1	09/25/14 16:45	09/26/14 11:34	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	09/25/14 16:45	09/26/14 11:25	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/23/14 00:00	09/24/14 19:50	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/23/14 00:00	09/24/14 19:50	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**2270**	ug/L	2000	1	09/23/14 00:00	09/24/14 19:50		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

Sample: T1-012 **Lab ID: 60178532001** Collected: 09/20/14 16:40 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	87-86-5	
Phenol	**3030**	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 19:50	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	96	%	33-120	1	09/23/14 00:00	09/24/14 19:50	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	1	09/23/14 00:00	09/24/14 19:50	321-60-8	
Terphenyl-d14 (S)	92	%	45-120	1	09/23/14 00:00	09/24/14 19:50	1718-51-0	
Phenol-d6 (S)	26	%	11-120	1	09/23/14 00:00	09/24/14 19:50	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	1	09/23/14 00:00	09/24/14 19:50	367-12-4	
2,4,6-Tribromophenol (S)	97	%	39-120	1	09/23/14 00:00	09/24/14 19:50	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**64300**	ug/L	2000	200		09/24/14 12:51	67-64-1	N2
Benzene	ND	ug/L	200	200		09/24/14 12:51	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/24/14 12:51	75-27-4	
Bromoform	ND	ug/L	200	200		09/24/14 12:51	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/24/14 12:51	74-83-9	
2-Butanone (MEK)	**24800**	ug/L	2000	200		09/24/14 12:51	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/24/14 12:51	56-23-5	
Chloroethane	ND	ug/L	200	200		09/24/14 12:51	75-00-3	
Chloroform	ND	ug/L	200	200		09/24/14 12:51	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/24/14 12:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/24/14 12:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 12:51	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 12:51	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/24/14 12:51	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/24/14 12:51	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/24/14 12:51	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/24/14 12:51	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/24/14 12:51	127-18-4	
Toluene	ND	ug/L	200	200		09/24/14 12:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/24/14 12:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/24/14 12:51	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/24/14 12:51	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/24/14 12:51	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/24/14 12:51	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		09/24/14 12:51	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	200		09/24/14 12:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		09/24/14 12:51	17060-07-0	
Preservation pH	**7.0**		1.0	200		09/24/14 12:51		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**34.0**	mg/L	5.0	1		09/26/14 12:34		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

Sample: T1-012 **Lab ID: 60178532001** Collected: 09/20/14 16:40 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		09/29/14 09:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2400**	mg/L	5.0	1		09/24/14 14:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/23/14 09:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**6880**	mg/L	2.0	1	09/22/14 16:35	09/27/14 07:22		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**124**	mg/L	5.0	50		09/24/14 14:00	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**13000**	mg/L	2500	250		09/26/14 10:23		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

Sample: TRIP BLANK **Lab ID: 60178532002** Collected: 09/20/14 16:40 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/24/14 10:58	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/24/14 10:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/24/14 10:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/24/14 10:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/24/14 10:58	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/24/14 10:58	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/24/14 10:58	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/24/14 10:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/24/14 10:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/24/14 10:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/24/14 10:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 10:58	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 10:58	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/24/14 10:58	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/24/14 10:58	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/24/14 10:58	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/24/14 10:58	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/24/14 10:58	127-18-4	
Toluene	ND	ug/L	1.0	1		09/24/14 10:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/24/14 10:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/24/14 10:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/24/14 10:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/24/14 10:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/24/14 10:58	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		09/24/14 10:58	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		09/24/14 10:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/24/14 10:58	17060-07-0	
Preservation pH	**7.0**		1.0	1		09/24/14 10:58		

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: MERP/8844
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178532001

METHOD BLANK: 1449294 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/26/14 11:31	

LABORATORY CONTROL SAMPLE: 1449295

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449296 1449297

Parameter	Units	60178532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	8.9	150	150	126	126	78	78	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: MERP/8843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178532001

METHOD BLANK: 1449285 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/26/14 11:22	

LABORATORY CONTROL SAMPLE: 1449286

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449287 1449288

Parameter	Units	60178532001 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	122	123	82	82	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: MPRP/29038
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178532001

METHOD BLANK: 1447710
Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/29/14 13:45	
Antimony	ug/L	ND	10.0	09/29/14 13:45	
Arsenic	ug/L	ND	10.0	09/29/14 13:45	
Beryllium	ug/L	ND	1.0	09/29/14 13:45	
Cadmium	ug/L	ND	5.0	09/29/14 13:45	
Chromium	ug/L	ND	5.0	09/29/14 13:45	
Cobalt	ug/L	ND	5.0	09/29/14 13:45	
Copper	ug/L	ND	10.0	09/29/14 13:45	
Iron	ug/L	ND	50.0	09/29/14 13:45	
Lead	ug/L	ND	5.0	09/29/14 13:45	
Nickel	ug/L	ND	5.0	09/29/14 13:45	
Selenium	ug/L	ND	15.0	09/29/14 13:45	
Silver	ug/L	ND	7.0	09/29/14 13:45	
Thallium	ug/L	ND	20.0	09/29/14 13:45	
Zinc	ug/L	ND	50.0	09/29/14 13:45	

LABORATORY CONTROL SAMPLE: 1447711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	990	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	501	100	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	1030	103	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447712 1447713

Parameter	Units	40103465001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2340	10000	10000	14000	13800	117	115	70-130	1	8	
Antimony	ug/L	<3.6	1000	1000	1040	1030	104	103	70-130	1	7	
Arsenic	ug/L	<50.0	1000	1000	1010	1000	100	100	70-130	1	10	
Beryllium	ug/L	0.61J	1000	1000	1020	1010	102	101	70-130	1	7	
Cadmium	ug/L	<5.0	1000	1000	1010	1000	101	100	70-130	0	10	
Chromium	ug/L	<10.0	1000	1000	1020	1020	102	101	70-130	1	10	
Cobalt	ug/L	0.90J	1000	1000	1040	1030	104	103	70-130	0	6	
Copper	ug/L	<20.0	1000	1000	1020	1020	102	101	70-130	1	11	
Iron	ug/L	2740	10000	10000	13300	13200	105	104	70-130	1	10	
Lead	ug/L	<50.0	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel	ug/L	<10.0	1000	1000	1040	1030	103	103	70-130	0	10	
Selenium	ug/L	<1.9	1000	1000	1010	1000	101	100	70-130	0	10	
Silver	ug/L	1.6J	500	500	502	502	100	100	70-130	0	10	
Thallium	ug/L	<3.0	1000	1000	998	993	100	99	70-130	0	6	
Zinc	ug/L	<25.0	1000	1000	1030	1030	101	101	70-130	1	11	

MATRIX SPIKE SAMPLE: 1447714

Parameter	Units	60178401001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	148	10000	9810	97	70-130	
Antimony	ug/L	14.2	1000	1060	104	70-130	
Arsenic	ug/L	ND	1000	930	93	70-130	
Beryllium	ug/L	ND	1000	978	98	70-130	
Cadmium	ug/L	ND	1000	996	99	70-130	
Chromium	ug/L	25.8	1000	1010	99	70-130	
Cobalt	ug/L	ND	1000	975	97	70-130	
Copper	ug/L	7560	1000	8260	69	70-130	M1
Iron	ug/L	5730	10000	15200	94	70-130	
Lead	ug/L	80.1	1000	1020	94	70-130	
Nickel	ug/L	23.8	1000	988	96	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	519	103	70-130	
Thallium	ug/L	ND	1000	849	85	70-130	
Zinc	ug/L	1550	1000	2520	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: MPRP/29059
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178532001

METHOD BLANK: 1449243
Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/29/14 13:12	
Antimony, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Arsenic, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Beryllium, Dissolved	ug/L	ND	1.0	09/29/14 13:12	
Cadmium, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Chromium, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Cobalt, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Copper, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Iron, Dissolved	ug/L	ND	50.0	09/29/14 13:12	
Lead, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Nickel, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Selenium, Dissolved	ug/L	ND	15.0	09/29/14 13:12	
Silver, Dissolved	ug/L	ND	7.0	09/29/14 13:12	
Thallium, Dissolved	ug/L	ND	20.0	09/29/14 13:12	
Zinc, Dissolved	ug/L	ND	50.0	09/29/14 13:12	

LABORATORY CONTROL SAMPLE: 1449244

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	965	97	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	982	98	85-115	
Chromium, Dissolved	ug/L	1000	975	97	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9680	97	85-115	
Lead, Dissolved	ug/L	1000	1000	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	973	97	85-115	
Silver, Dissolved	ug/L	500	488	98	85-115	
Thallium, Dissolved	ug/L	1000	980	98	85-115	
Zinc, Dissolved	ug/L	1000	981	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449245 1449246

Parameter	Units	60178532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	50200	49900	100	100	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5270	5280	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	331	5000	5000	5500	5460	103	103	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5080	5050	102	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5100	5090	102	102	70-130	0	10	
Chromium, Dissolved	ug/L	59.7	5000	5000	4980	5010	99	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5020	5040	100	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5200	103	104	70-130	0	11	
Iron, Dissolved	ug/L	38000	50000	50000	86800	86800	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4910	4930	98	99	70-130	1	10	
Nickel, Dissolved	ug/L	48.8	5000	5000	5070	5060	100	100	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5200	5200	104	104	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2550	2540	102	101	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4670	4630	93	93	70-130	1	6	
Zinc, Dissolved	ug/L	ND	5000	5000	5200	5220	99	99	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: MSV/64597 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178532001, 60178532002

METHOD BLANK: 1448086 Matrix: Water
Associated Lab Samples: 60178532001, 60178532002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/24/14 09:21	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,2-Dichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/24/14 09:21	
2-Butanone (MEK)	ug/L	ND	10.0	09/24/14 09:21	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/24/14 09:21	N2
Acetone	ug/L	ND	10.0	09/24/14 09:21	N2
Benzene	ug/L	ND	1.0	09/24/14 09:21	
Bromodichloromethane	ug/L	ND	1.0	09/24/14 09:21	
Bromoform	ug/L	ND	1.0	09/24/14 09:21	
Bromomethane	ug/L	ND	5.0	09/24/14 09:21	
Carbon tetrachloride	ug/L	ND	1.0	09/24/14 09:21	
Chloroethane	ug/L	ND	1.0	09/24/14 09:21	
Chloroform	ug/L	ND	1.0	09/24/14 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	N2
Ethylbenzene	ug/L	ND	1.0	09/24/14 09:21	
Methylene chloride	ug/L	ND	1.0	09/24/14 09:21	
Tetrachloroethene	ug/L	ND	1.0	09/24/14 09:21	
Toluene	ug/L	ND	1.0	09/24/14 09:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Trichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Vinyl chloride	ug/L	ND	1.0	09/24/14 09:21	
Xylene (Total)	ug/L	ND	3.0	09/24/14 09:21	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/24/14 09:21	
4-Bromofluorobenzene (S)	%	98	80-120	09/24/14 09:21	
Toluene-d8 (S)	%	98	80-120	09/24/14 09:21	

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.3	106	67-124	
1,2-Dichloroethane	ug/L	20	20.1	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	96.1	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	94.2	94	38-134	N2
Benzene	ug/L	20	19.5	97	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.7	99	65-127	
Bromomethane	ug/L	20	23.0	115	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.4	92	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	19.0	95	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	66-129	
Trichloroethene	ug/L	20	21.0	105	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	62.5	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4190	105	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3830	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3900	97	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4040	101	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3840	96	33-140	
2-Butanone (MEK)	ug/L	29400	20000	47800	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19000	93	40-160	N2
Acetone	ug/L	66700	20000	86400	98	10-160	N2
Benzene	ug/L	ND	4000	3900	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4110	103	35-142	
Bromoform	ug/L	ND	4000	3640	91	45-142	
Bromomethane	ug/L	ND	4000	3620	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4130	103	70-140	
Chloroethane	ug/L	ND	4000	3380	84	19-152	
Chloroform	ug/L	ND	4000	3940	98	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4120	103	34-147	N2
Ethylbenzene	ug/L	ND	4000	4110	103	40-142	
Methylene chloride	ug/L	ND	4000	3630	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4210	105	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-151	
Trichloroethene	ug/L	ND	4000	4220	105	71-149	
Vinyl chloride	ug/L	ND	4000	3190	80	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12500	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	HS
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: OEXT/46244
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178532001

METHOD BLANK: 1447367
Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/24/14 18:26	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/24/14 18:26	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/24/14 18:26	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/24/14 18:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachloroethane	ug/L	ND	5.0	09/24/14 18:26	
Naphthalene	ug/L	ND	5.0	09/24/14 18:26	
Nitrobenzene	ug/L	ND	5.0	09/24/14 18:26	
Pentachlorophenol	ug/L	ND	5.0	09/24/14 18:26	
Phenol	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Tribromophenol (S)	%	79	39-120	09/24/14 18:26	
2-Fluorobiphenyl (S)	%	74	39-120	09/24/14 18:26	
2-Fluorophenol (S)	%	32	17-120	09/24/14 18:26	
Nitrobenzene-d5 (S)	%	74	33-120	09/24/14 18:26	
Phenol-d6 (S)	%	22	11-120	09/24/14 18:26	
Terphenyl-d14 (S)	%	87	45-120	09/24/14 18:26	

LABORATORY CONTROL SAMPLE: 1447368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.6	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.3	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.5	59	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.3	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.2	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	40.5	41	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	46.5	93	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			25	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 T1-012
Pace Project No.: 60178532

MATRIX SPIKE SAMPLE: 1447369

Parameter	Units	60178413001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.5	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.7	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.8	56	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	51.9	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	35.2	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	40.0	40	11-120	
Hexachloroethane	ug/L	ND	50	35.2	70	40-113	
Naphthalene	ug/L	ND	50	36.3	73	45-120	
Nitrobenzene	ug/L	ND	50	36.6	73	38-120	
Pentachlorophenol	ug/L	ND	50	48.6	97	43-135	
Phenol	ug/L	ND	50	13.5	27	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				24	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WET/50520 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178532001

METHOD BLANK: 1449724 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/26/14 12:31	

LABORATORY CONTROL SAMPLE: 1449725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.2	90	78-114	

MATRIX SPIKE SAMPLE: 1449726

Parameter	Units	60178195002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	38.2	89	78-114	

SAMPLE DUPLICATE: 1449727

Parameter	Units	60178201001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	21.7	19.7	10	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WET/50542 — Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A — Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178532001

METHOD BLANK: 1450667 — Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/29/14 09:27	

LABORATORY CONTROL SAMPLE: 1450668

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: 1450669

Parameter	Units	60178102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.7	26.5	114	64-132	

SAMPLE DUPLICATE: 1450670

Parameter	Units	60178102002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WET/50472
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178532001

METHOD BLANK: 1448269 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/24/14 14:14	

SAMPLE DUPLICATE: 1448270

Parameter	Units	60178450002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	400	312	25	10	D6

SAMPLE DUPLICATE: 1448271

Parameter	Units	60178473004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3300	2200	40	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WET/50442
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178532001

SAMPLE DUPLICATE: 1447442

Parameter	Units	60178231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WET/50427 — Analysis Method: SM 5210B
QC Batch Method: SM 5210B — Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178532001

METHOD BLANK: 1447296 — Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/27/14 07:06	

LABORATORY CONTROL SAMPLE: 1447297

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

SAMPLE DUPLICATE: 1447298

Parameter	Units	60178531001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	62.1	57.2	8	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WETA/31119
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178532001

METHOD BLANK: 1448153 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/24/14 13:27	

LABORATORY CONTROL SAMPLE: 1448154

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

MATRIX SPIKE SAMPLE: 1448155

Parameter	Units	60178230001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1448156

Parameter	Units	60178244002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.105	2	1.8	89	90-110	M1

SAMPLE DUPLICATE: 1448157

Parameter	Units	60178278001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	9.4	9.1	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-012
Pace Project No.: 60178532

QC Batch: WETA/31132 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60178532001

METHOD BLANK: 1448799 Matrix: Water
Associated Lab Samples: 60178532001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/26/14 10:57	

LABORATORY CONTROL SAMPLE: 1448800

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1448801

Parameter	Units	60178193002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	12.4	50	39.5	54	90-110	M1

MATRIX SPIKE SAMPLE: 1448803

Parameter	Units	60178305005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	38.8	50	81.1	85	90-110	M1

SAMPLE DUPLICATE: 1448802

Parameter	Units	60178533001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	12300	11700	4	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON T1-012
Pace Project No.: 60178532

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 T1-012
Pace Project No.: 60178532

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178532001	**T1-012**	EPA 200.7	MPRP/29038	EPA 200.7	ICP/21863
60178532001	**T1-012**	EPA 200.7	MPRP/29059	EPA 200.7	ICP/21876
60178532001	**T1-012**	EPA 245.1	MERP/8844	EPA 245.1	MERC/8799
60178532001	**T1-012**	EPA 245.1	MERP/8843	EPA 245.1	MERC/8798
60178532001	**T1-012**	EPA 625	OEXT/46244	EPA 625	MSSV/14861
60178532001	**T1-012**	EPA 624 Low	MSV/64597		
60178532002	**TRIP BLANK**	EPA 624 Low	MSV/64597		
60178532001	**T1-012**	EPA 1664A	WET/50520		
60178532001	**T1-012**	EPA 1664A	WET/50542		
60178532001	**T1-012**	SM 2540D	WET/50472		
60178532001	**T1-012**	SM 4500-H+B	WET/50442		
60178532001	**T1-012**	SM 5210B	WET/50427	SM 5210B	WET/50534
60178532001	**T1-012**	EPA 350.1	WETA/31119		
60178532001	**T1-012**	EPA 410.4	WETA/31132		

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Sample Condition Upon Receipt

WO# : 60178532

60178532

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ V14

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: 1.0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: [illegible]

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	HNO3 initial pH ~6.0; added 2.5 ml; final ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H2SO4 initial pH ~5.0; added 2 ml; final ~2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14.
	Initial when completed	Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 sample vials — common
		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: 9/28/14

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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	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)	60178532 2(BP2U) BP3U 3(AG3?) 2(AG4U) BP3S BP3N
1	TI-012	OT	G	9/20/14	1640	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			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	[signature] FBI	9-22-14	9:00a	Dan 3 AC	9-22-14	0800				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	9/22/14	1320	1.0	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: RYAN BROSIOUS

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/20/14

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

September 29, 2014

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

RE: Project: BRIDGETON T1-013
Pace Project No.: 60178533

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 22, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

cc: 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 T1-013
Pace Project No.: 60178533

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 T1-013
Pace Project No.: 60178533

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178533001	**T1-013**	Water	09/21/14 16:45	09/22/14 13:20
60178533002	**TRIP BLANK**	Water	09/21/14 16:45	09/22/14 13:20

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178533001	**T1-013**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	PRG	28
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	JMC1	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178533002	**TRIP BLANK**	EPA 624 Low	PRG	28

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PROJECT NARRATIVE

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Date: September 29, 2014

The sample volume received for volatile analysis for leachate sample T1-013 contained head space presence greater than 6mm. Per historical instructions, the analysis is completed and the presence noted.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Sample: T1-013 **Lab ID: 60178533001** Collected: 09/21/14 16:45 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5200**	ug/L	375	1	09/23/14 16:00	09/29/14 13:58	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:58	7440-36-0	
Arsenic	**557**	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:58	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/23/14 16:00	09/29/14 13:58	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:58	7440-43-9	
Chromium	**134**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:58	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:58	7440-48-4	
Copper	ND	ug/L	50.0	1	09/23/14 16:00	09/29/14 13:58	7440-50-8	
Iron	**378000**	ug/L	250	1	09/23/14 16:00	09/29/14 13:58	7439-89-6	
Lead	**75.8**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:58	7439-92-1	
Nickel	**77.2**	ug/L	25.0	1	09/23/14 16:00	09/29/14 13:58	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/23/14 16:00	09/29/14 13:58	7782-49-2	
Silver	ND	ug/L	35.0	1	09/23/14 16:00	09/29/14 13:58	7440-22-4	
Thallium	ND	ug/L	100	1	09/23/14 16:00	09/29/14 13:58	7440-28-0	
Zinc	**2430**	ug/L	250	1	09/23/14 16:00	09/29/14 13:58	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	09/25/14 16:45	09/29/14 13:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:24	7440-36-0	
Arsenic, Dissolved	**369**	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/25/14 16:45	09/29/14 13:24	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:24	7440-43-9	
Chromium, Dissolved	**67.8**	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:24	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:24	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/25/14 16:45	09/29/14 13:24	7440-50-8	
Iron, Dissolved	**41900**	ug/L	250	1	09/25/14 16:45	09/29/14 13:24	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:24	7439-92-1	
Nickel, Dissolved	**61.0**	ug/L	25.0	1	09/25/14 16:45	09/29/14 13:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/25/14 16:45	09/29/14 13:24	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/25/14 16:45	09/29/14 13:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/25/14 16:45	09/29/14 13:24	7440-28-0	
Zinc, Dissolved	**332**	ug/L	250	1	09/25/14 16:45	09/29/14 13:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**30.0**	ug/L	6.0	1	09/25/14 16:45	09/26/14 11:41	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	09/25/14 16:45	09/26/14 11:29	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/23/14 00:00	09/24/14 20:11	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/23/14 00:00	09/24/14 20:11	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2000	1	09/23/14 00:00	09/24/14 20:11		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Sample: T1-013 **Lab ID: 60178533001** Collected: 09/21/14 16:45 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	87-86-5	
Phenol	**2160**	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/23/14 00:00	09/24/14 20:11	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	84	%	33-120	1	09/23/14 00:00	09/24/14 20:11	4165-60-0	
2-Fluorobiphenyl (S)	76	%	39-120	1	09/23/14 00:00	09/24/14 20:11	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	1	09/23/14 00:00	09/24/14 20:11	1718-51-0	
Phenol-d6 (S)	24	%	11-120	1	09/23/14 00:00	09/24/14 20:11	13127-88-3	
2-Fluorophenol (S)	31	%	17-120	1	09/23/14 00:00	09/24/14 20:11	367-12-4	
2,4,6-Tribromophenol (S)	95	%	39-120	1	09/23/14 00:00	09/24/14 20:11	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**59300**	ug/L	2000	200		09/24/14 13:07	67-64-1	N2
Benzene	ND	ug/L	200	200		09/24/14 13:07	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/24/14 13:07	75-27-4	
Bromoform	ND	ug/L	200	200		09/24/14 13:07	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/24/14 13:07	74-83-9	
2-Butanone (MEK)	**20200**	ug/L	2000	200		09/24/14 13:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/24/14 13:07	56-23-5	
Chloroethane	ND	ug/L	200	200		09/24/14 13:07	75-00-3	
Chloroform	ND	ug/L	200	200		09/24/14 13:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/24/14 13:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/24/14 13:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:07	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/24/14 13:07	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/24/14 13:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/24/14 13:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/24/14 13:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/24/14 13:07	127-18-4	
Toluene	ND	ug/L	200	200		09/24/14 13:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/24/14 13:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/24/14 13:07	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/24/14 13:07	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/24/14 13:07	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/24/14 13:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/24/14 13:07	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	200		09/24/14 13:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		09/24/14 13:07	17060-07-0	
Preservation pH	**7.0**		1.0	200		09/24/14 13:07		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**42.4**	mg/L	5.0	1		09/26/14 12:34		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Sample: T1-013 **Lab ID: 60178533001** Collected: 09/21/14 16:45 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.0**	mg/L	5.0	1		09/29/14 09:28		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1840**	mg/L	5.0	1		09/24/14 14:18		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/23/14 09:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**5620**	mg/L	2.0	1	09/22/14 16:40	09/27/14 07:30		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**117**	mg/L	5.0	50		09/24/14 14:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**12300**	mg/L	2500	250		09/26/14 10:24		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-013
Pace Project No.: 60178533

Sample: TRIP BLANK **Lab ID: 60178533002** Collected: 09/21/14 16:45 Received: 09/22/14 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/24/14 11:14	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/24/14 11:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/24/14 11:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/24/14 11:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/24/14 11:14	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/24/14 11:14	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/24/14 11:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/24/14 11:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/24/14 11:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/24/14 11:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/24/14 11:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 11:14	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 11:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/24/14 11:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/24/14 11:14	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/24/14 11:14	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/24/14 11:14	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/24/14 11:14	127-18-4	
Toluene	ND	ug/L	1.0	1		09/24/14 11:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/24/14 11:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/24/14 11:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/24/14 11:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/24/14 11:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/24/14 11:14	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		09/24/14 11:14	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/24/14 11:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/24/14 11:14	17060-07-0	
Preservation pH	**7.0**		1.0	1		09/24/14 11:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: MERP/8844
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178533001

METHOD BLANK: 1449294 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/26/14 11:31	

LABORATORY CONTROL SAMPLE: 1449295

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449296 1449297

Parameter	Units	60178532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	8.9	150	150	126	126	78	78	70-130	0	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: MERP/8843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178533001

METHOD BLANK: 1449285 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/26/14 11:22	

LABORATORY CONTROL SAMPLE: 1449286

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.8	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449287 1449288

Parameter	Units	60178532001 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	122	123	82	82	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 T1-013
Pace Project No.: 60178533

QC Batch: MPRP/29038
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178533001

METHOD BLANK: 1447710
Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/29/14 13:45	
Antimony	ug/L	ND	10.0	09/29/14 13:45	
Arsenic	ug/L	ND	10.0	09/29/14 13:45	
Beryllium	ug/L	ND	1.0	09/29/14 13:45	
Cadmium	ug/L	ND	5.0	09/29/14 13:45	
Chromium	ug/L	ND	5.0	09/29/14 13:45	
Cobalt	ug/L	ND	5.0	09/29/14 13:45	
Copper	ug/L	ND	10.0	09/29/14 13:45	
Iron	ug/L	ND	50.0	09/29/14 13:45	
Lead	ug/L	ND	5.0	09/29/14 13:45	
Nickel	ug/L	ND	5.0	09/29/14 13:45	
Selenium	ug/L	ND	15.0	09/29/14 13:45	
Silver	ug/L	ND	7.0	09/29/14 13:45	
Thallium	ug/L	ND	20.0	09/29/14 13:45	
Zinc	ug/L	ND	50.0	09/29/14 13:45	

LABORATORY CONTROL SAMPLE: 1447711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	990	99	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	1010	101	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	501	100	85-115	
Thallium	ug/L	1000	1010	101	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 T1-013
Pace Project No.: 60178533

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1447712 1447713

Parameter	Units	40103465001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2340	10000	10000	14000	13800	117	115	70-130	1	8	
Antimony	ug/L	<3.6	1000	1000	1040	1030	104	103	70-130	1	7	
Arsenic	ug/L	<50.0	1000	1000	1010	1000	100	100	70-130	1	10	
Beryllium	ug/L	0.61J	1000	1000	1020	1010	102	101	70-130	1	7	
Cadmium	ug/L	<5.0	1000	1000	1010	1000	101	100	70-130	0	10	
Chromium	ug/L	<10.0	1000	1000	1020	1020	102	101	70-130	1	10	
Cobalt	ug/L	0.90J	1000	1000	1040	1030	104	103	70-130	0	6	
Copper	ug/L	<20.0	1000	1000	1020	1020	102	101	70-130	1	11	
Iron	ug/L	2740	10000	10000	13300	13200	105	104	70-130	1	10	
Lead	ug/L	<50.0	1000	1000	1020	1020	102	102	70-130	0	10	
Nickel	ug/L	<10.0	1000	1000	1040	1030	103	103	70-130	0	10	
Selenium	ug/L	<1.9	1000	1000	1010	1000	101	100	70-130	0	10	
Silver	ug/L	1.6J	500	500	502	502	100	100	70-130	0	10	
Thallium	ug/L	<3.0	1000	1000	998	993	100	99	70-130	0	6	
Zinc	ug/L	<25.0	1000	1000	1030	1030	101	101	70-130	1	11	

MATRIX SPIKE SAMPLE: 1447714

Parameter	Units	60178401001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	148	10000	9810	97	70-130	
Antimony	ug/L	14.2	1000	1060	104	70-130	
Arsenic	ug/L	ND	1000	930	93	70-130	
Beryllium	ug/L	ND	1000	978	98	70-130	
Cadmium	ug/L	ND	1000	996	99	70-130	
Chromium	ug/L	25.8	1000	1010	99	70-130	
Cobalt	ug/L	ND	1000	975	97	70-130	
Copper	ug/L	7560	1000	8260	69	70-130	M1
Iron	ug/L	5730	10000	15200	94	70-130	
Lead	ug/L	80.1	1000	1020	94	70-130	
Nickel	ug/L	23.8	1000	988	96	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	519	103	70-130	
Thallium	ug/L	ND	1000	849	85	70-130	
Zinc	ug/L	1550	1000	2520	97	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: MPRP/29059
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178533001

METHOD BLANK: 1449243
Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/29/14 13:12	
Antimony, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Arsenic, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Beryllium, Dissolved	ug/L	ND	1.0	09/29/14 13:12	
Cadmium, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Chromium, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Cobalt, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Copper, Dissolved	ug/L	ND	10.0	09/29/14 13:12	
Iron, Dissolved	ug/L	ND	50.0	09/29/14 13:12	
Lead, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Nickel, Dissolved	ug/L	ND	5.0	09/29/14 13:12	
Selenium, Dissolved	ug/L	ND	15.0	09/29/14 13:12	
Silver, Dissolved	ug/L	ND	7.0	09/29/14 13:12	
Thallium, Dissolved	ug/L	ND	20.0	09/29/14 13:12	
Zinc, Dissolved	ug/L	ND	50.0	09/29/14 13:12	

LABORATORY CONTROL SAMPLE: 1449244

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9830	98	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	965	97	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	982	98	85-115	
Chromium, Dissolved	ug/L	1000	975	97	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	995	99	85-115	
Iron, Dissolved	ug/L	10000	9680	97	85-115	
Lead, Dissolved	ug/L	1000	1000	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	973	97	85-115	
Silver, Dissolved	ug/L	500	488	98	85-115	
Thallium, Dissolved	ug/L	1000	980	98	85-115	
Zinc, Dissolved	ug/L	1000	981	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449245 1449246

Parameter	Units	60178532001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	50200	49900	100	100	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5270	5280	105	105	70-130	0	7	
Arsenic, Dissolved	ug/L	331	5000	5000	5500	5460	103	103	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5080	5050	102	101	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5100	5090	102	102	70-130	0	10	
Chromium, Dissolved	ug/L	59.7	5000	5000	4980	5010	99	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5020	5040	100	101	70-130	0	6	
Copper, Dissolved	ug/L	ND	5000	5000	5190	5200	103	104	70-130	0	11	
Iron, Dissolved	ug/L	38000	50000	50000	86800	86800	98	98	70-130	0	10	
Lead, Dissolved	ug/L	ND	5000	5000	4910	4930	98	99	70-130	1	10	
Nickel, Dissolved	ug/L	48.8	5000	5000	5070	5060	100	100	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5200	5200	104	104	70-130	0	10	
Silver, Dissolved	ug/L	ND	2500	2500	2550	2540	102	101	70-130	0	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4670	4630	93	93	70-130	1	6	
Zinc, Dissolved	ug/L	ND	5000	5000	5200	5220	99	99	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: MSV/64597
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60178533001, 60178533002

METHOD BLANK: 1448086
Matrix: Water
Associated Lab Samples: 60178533001, 60178533002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/24/14 09:21	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,2-Dichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/24/14 09:21	
2-Butanone (MEK)	ug/L	ND	10.0	09/24/14 09:21	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/24/14 09:21	N2
Acetone	ug/L	ND	10.0	09/24/14 09:21	N2
Benzene	ug/L	ND	1.0	09/24/14 09:21	
Bromodichloromethane	ug/L	ND	1.0	09/24/14 09:21	
Bromoform	ug/L	ND	1.0	09/24/14 09:21	
Bromomethane	ug/L	ND	5.0	09/24/14 09:21	
Carbon tetrachloride	ug/L	ND	1.0	09/24/14 09:21	
Chloroethane	ug/L	ND	1.0	09/24/14 09:21	
Chloroform	ug/L	ND	1.0	09/24/14 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	N2
Ethylbenzene	ug/L	ND	1.0	09/24/14 09:21	
Methylene chloride	ug/L	ND	1.0	09/24/14 09:21	
Tetrachloroethene	ug/L	ND	1.0	09/24/14 09:21	
Toluene	ug/L	ND	1.0	09/24/14 09:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Trichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Vinyl chloride	ug/L	ND	1.0	09/24/14 09:21	
Xylene (Total)	ug/L	ND	3.0	09/24/14 09:21	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/24/14 09:21	
4-Bromofluorobenzene (S)	%	98	80-120	09/24/14 09:21	
Toluene-d8 (S)	%	98	80-120	09/24/14 09:21	

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.3	106	67-124	
1,2-Dichloroethane	ug/L	20	20.1	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	96.1	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	94.2	94	38-134	N2
Benzene	ug/L	20	19.5	97	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.7	99	65-127	
Bromomethane	ug/L	20	23.0	115	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.4	92	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	19.0	95	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	66-129	
Trichloroethene	ug/L	20	21.0	105	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	62.5	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4190	105	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3830	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3900	97	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4040	101	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3840	96	33-140	
2-Butanone (MEK)	ug/L	29400	20000	47800	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19000	93	40-160	N2
Acetone	ug/L	66700	20000	86400	98	10-160	N2
Benzene	ug/L	ND	4000	3900	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4110	103	35-142	
Bromoform	ug/L	ND	4000	3640	91	45-142	
Bromomethane	ug/L	ND	4000	3620	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4130	103	70-140	
Chloroethane	ug/L	ND	4000	3380	84	19-152	
Chloroform	ug/L	ND	4000	3940	98	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4120	103	34-147	N2
Ethylbenzene	ug/L	ND	4000	4110	103	40-142	
Methylene chloride	ug/L	ND	4000	3630	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4210	105	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-151	
Trichloroethene	ug/L	ND	4000	4220	105	71-149	
Vinyl chloride	ug/L	ND	4000	3190	80	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12500	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	HS
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: OEXT/46244
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178533001

METHOD BLANK: 1447367
Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/24/14 18:26	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/24/14 18:26	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/24/14 18:26	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/24/14 18:26	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/24/14 18:26	
Hexachloroethane	ug/L	ND	5.0	09/24/14 18:26	
Naphthalene	ug/L	ND	5.0	09/24/14 18:26	
Nitrobenzene	ug/L	ND	5.0	09/24/14 18:26	
Pentachlorophenol	ug/L	ND	5.0	09/24/14 18:26	
Phenol	ug/L	ND	5.0	09/24/14 18:26	
2,4,6-Tribromophenol (S)	%	79	39-120	09/24/14 18:26	
2-Fluorobiphenyl (S)	%	74	39-120	09/24/14 18:26	
2-Fluorophenol (S)	%	32	17-120	09/24/14 18:26	
Nitrobenzene-d5 (S)	%	74	33-120	09/24/14 18:26	
Phenol-d6 (S)	%	22	11-120	09/24/14 18:26	
Terphenyl-d14 (S)	%	87	45-120	09/24/14 18:26	

LABORATORY CONTROL SAMPLE: 1447368

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.6	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	32.3	65	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	29.5	59	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.3	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.2	76	44-116	
Hexachlorocyclopentadiene	ug/L	100	40.5	41	24-120	
Hexachloroethane	ug/L	50	36.8	74	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	46.5	93	47-120	
Phenol	ug/L	50	15.5	31	16-112	
2,4,6-Tribromophenol (S)	%			89	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			25	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

MATRIX SPIKE SAMPLE: 1447369

Parameter	Units	60178413001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.5	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.7	83	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	50	27.8	56	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	51.9	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	35.2	70	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	40.0	40	11-120	
Hexachloroethane	ug/L	ND	50	35.2	70	40-113	
Naphthalene	ug/L	ND	50	36.3	73	45-120	
Nitrobenzene	ug/L	ND	50	36.6	73	38-120	
Pentachlorophenol	ug/L	ND	50	48.6	97	43-135	
Phenol	ug/L	ND	50	13.5	27	13-112	
2,4,6-Tribromophenol (S)	%				92	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				35	17-120	
Nitrobenzene-d5 (S)	%				76	33-120	
Phenol-d6 (S)	%				24	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: WET/50520 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178533001

METHOD BLANK: 1449724 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/26/14 12:31	

LABORATORY CONTROL SAMPLE: 1449725

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.2	90	78-114	

MATRIX SPIKE SAMPLE: 1449726

Parameter	Units	60178195002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	38.2	89	78-114	

SAMPLE DUPLICATE: 1449727

Parameter	Units	60178201001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	21.7	19.7	10	18	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: WET/50542 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178533001

METHOD BLANK: 1450667 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/29/14 09:27	

LABORATORY CONTROL SAMPLE: 1450668

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: 1450669

Parameter	Units	60178102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.7	26.5	114	64-132	

SAMPLE DUPLICATE: 1450670

Parameter	Units	60178102002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-013
Pace Project No.: 60178533

QC Batch: WET/50472
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178533001

METHOD BLANK: 1448269 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/24/14 14:14	

SAMPLE DUPLICATE: 1448270

Parameter	Units	60178450002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	400	312	25	10	D6

SAMPLE DUPLICATE: 1448271

Parameter	Units	60178473004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3300	2200	40	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 T1-013
Pace Project No.: 60178533

QC Batch: WET/50442
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178533001

SAMPLE DUPLICATE: 1447442

Parameter	Units	60178231001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	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 T1-013
Pace Project No.: 60178533

QC Batch: WET/50427 — Analysis Method: SM 5210B
QC Batch Method: SM 5210B — Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178533001

METHOD BLANK: 1447296 — Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/27/14 07:06	

LABORATORY CONTROL SAMPLE: 1447297

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

SAMPLE DUPLICATE: 1447298

Parameter	Units	60178531001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	62.1	57.2	8	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 T1-013
Pace Project No.: 60178533

QC Batch: WETA/31119
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178533001

METHOD BLANK: 1448153 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/24/14 13:27	

LABORATORY CONTROL SAMPLE: 1448154

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

MATRIX SPIKE SAMPLE: 1448155

Parameter	Units	60178230001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1448156

Parameter	Units	60178244002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.105	2	1.8	89	90-110	M1

SAMPLE DUPLICATE: 1448157

Parameter	Units	60178278001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	9.4	9.1	3	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 T1-013
Pace Project No.: 60178533

QC Batch: WETA/31132 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60178533001

METHOD BLANK: 1448799 Matrix: Water
Associated Lab Samples: 60178533001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/26/14 10:57	

LABORATORY CONTROL SAMPLE: 1448800

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.8	100	90-110	

MATRIX SPIKE SAMPLE: 1448801

Parameter	Units	60178193002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	12.4	50	39.5	54	90-110	M1

MATRIX SPIKE SAMPLE: 1448803

Parameter	Units	60178305005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	38.8	50	81.1	85	90-110	M1

SAMPLE DUPLICATE: 1448802

Parameter	Units	60178533001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	12300	11700	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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QUALIFIERS

Project: BRIDGETON T1-013
Pace Project No.: 60178533

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 T1-013
Pace Project No.: 60178533

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178533001	**T1-013**	EPA 200.7	MPRP/29038	EPA 200.7	ICP/21863
60178533001	**T1-013**	EPA 200.7	MPRP/29059	EPA 200.7	ICP/21876
60178533001	**T1-013**	EPA 245.1	MERP/8844	EPA 245.1	MERC/8799
60178533001	**T1-013**	EPA 245.1	MERP/8843	EPA 245.1	MERC/8798
60178533001	**T1-013**	EPA 625	OEXT/46244	EPA 625	MSSV/14861
60178533001	**T1-013**	EPA 624 Low	MSV/64597		
60178533002	**TRIP BLANK**	EPA 624 Low	MSV/64597		
60178533001	**T1-013**	EPA 1664A	WET/50520		
60178533001	**T1-013**	EPA 1664A	WET/50542		
60178533001	**T1-013**	SM 2540D	WET/50472		
60178533001	**T1-013**	SM 4500-H+B	WET/50442		
60178533001	**T1-013**	SM 5210B	WET/50427	SM 5210B	WET/50534
60178533001	**T1-013**	EPA 350.1	WETA/31119		
60178533001	**T1-013**	EPA 410.4	WETA/31132		

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Sample Condition Upon Receipt

WO#: 60178533

60178533

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2-4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: MW 9/27/14

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	HNO3 initial pH ~6.0; added 2.5 ml; final ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H2SO4 initial pH ~5.0; added 2ml; final ~2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 sample vials - COMMENT
		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: 9/28/14

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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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test	COD EPA 410	pH SM 4500H+B	LF-DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	60175533 2(BP2U) BP3U 3(AE3S) 2(AG4U) BP3S BP3N
1	T1-013	OT	G	9/21/14	1645	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			5(DG9U) W1
2	TRIP BLANK	—	—	—	—	—	—		2	2																X						2(DG9U) W2
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FST	9-22-14	9:00am	DON 305	9-22-14	0900				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	9/22/14	1320	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: RYAN BROSIOUS

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/21/14

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

October 01, 2014

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

RE: Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

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

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

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 T1-014
Pace Project No.: 60178644

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178644001	**T1-014**	Water	09/22/14 14:49	09/24/14 02:10
60178644002	**TRIP BLANK**	Water	09/22/14 14:49	09/24/14 02:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178644001	**T1-014**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	JML	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178644002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Sample: T1-014 **Lab ID: 60178644001** Collected: 09/22/14 14:49 Received: 09/24/14 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	**5560**	ug/L	375	1	09/29/14 10:15	09/30/14 17:16	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:16	7440-36-0	
Arsenic	**598**	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:16	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/29/14 10:15	09/30/14 17:16	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:16	7440-43-9	
Chromium	**139**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:16	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:16	7440-48-4	
Copper	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:16	7440-50-8	
Iron	**454000**	ug/L	250	1	09/29/14 10:15	10/01/14 12:25	7439-89-6	M1
Lead	**172**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:16	7439-92-1	
Nickel	**78.6**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:16	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/29/14 10:15	09/30/14 17:16	7782-49-2	
Silver	ND	ug/L	35.0	1	09/29/14 10:15	09/30/14 17:16	7440-22-4	
Thallium	ND	ug/L	100	1	09/29/14 10:15	09/30/14 17:16	7440-28-0	
Zinc	**2940**	ug/L	250	1	09/29/14 10:15	09/30/14 17:16	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	09/29/14 18:05	09/30/14 15:08	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:08	7440-36-0	
Arsenic, Dissolved	**345**	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:08	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/29/14 18:05	09/30/14 15:08	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:08	7440-43-9	
Chromium, Dissolved	**60.8**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:08	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:08	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:08	7440-50-8	
Iron, Dissolved	**45800**	ug/L	250	1	09/29/14 18:05	09/30/14 15:08	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:08	7439-92-1	
Nickel, Dissolved	**48.7**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:08	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/29/14 18:05	09/30/14 15:08	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/29/14 18:05	09/30/14 15:08	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/29/14 18:05	09/30/14 15:08	7440-28-0	
Zinc, Dissolved	**293**	ug/L	250	1	09/29/14 18:05	09/30/14 15:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	09/26/14 14:35	09/30/14 10:47	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	10/01/14 11:40	10/01/14 15:59	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/25/14 00:00	09/26/14 11:38	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/25/14 00:00	09/26/14 11:38	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2000	1	09/25/14 00:00	09/26/14 11:38		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Sample: T1-014 **Lab ID: 60178644001** Collected: 09/22/14 14:49 Received: 09/24/14 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	500	1	09/25/14 00:00	09/26/14 11:38	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	87-86-5	
Phenol	**2880**	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:38	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	89	%	33-120	1	09/25/14 00:00	09/26/14 11:38	4165-60-0	
2-Fluorobiphenyl (S)	78	%	39-120	1	09/25/14 00:00	09/26/14 11:38	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	1	09/25/14 00:00	09/26/14 11:38	1718-51-0	
Phenol-d6 (S)	26	%	11-120	1	09/25/14 00:00	09/26/14 11:38	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	1	09/25/14 00:00	09/26/14 11:38	367-12-4	
2,4,6-Tribromophenol (S)	92	%	39-120	1	09/25/14 00:00	09/26/14 11:38	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**62700**	ug/L	2000	200		09/29/14 12:41	67-64-1	N2
Benzene	ND	ug/L	200	200		09/29/14 12:41	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/29/14 12:41	75-27-4	
Bromoform	ND	ug/L	200	200		09/29/14 12:41	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/29/14 12:41	74-83-9	
2-Butanone (MEK)	**20400**	ug/L	2000	200		09/29/14 12:41	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/29/14 12:41	56-23-5	
Chloroethane	ND	ug/L	200	200		09/29/14 12:41	75-00-3	
Chloroform	ND	ug/L	200	200		09/29/14 12:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/29/14 12:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/29/14 12:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/29/14 12:41	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/29/14 12:41	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/29/14 12:41	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/29/14 12:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/29/14 12:41	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/29/14 12:41	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/29/14 12:41	127-18-4	
Toluene	ND	ug/L	200	200		09/29/14 12:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/29/14 12:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/29/14 12:41	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/29/14 12:41	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/29/14 12:41	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/29/14 12:41	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	200		09/29/14 12:41	460-00-4	
Toluene-d8 (S)	102	%	80-120	200		09/29/14 12:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		09/29/14 12:41	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/29/14 12:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**88.2**	mg/L	5.0	1		09/30/14 17:25		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Sample: T1-014 **Lab ID: 60178644001** Collected: 09/22/14 14:49 Received: 09/24/14 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	**9.1**	mg/L	5.0	1		09/30/14 17:33		D6
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2240**	mg/L	5.0	1		09/29/14 08:41		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		09/29/14 13:26		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**7320**	mg/L	2.0	1	09/24/14 10:28	09/29/14 11:28		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**105**	mg/L	5.0	50		09/27/14 11:19	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**18000**	mg/L	2500	250		10/01/14 09:23		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Sample: TRIP BLANK **Lab ID: 60178644002** Collected: 09/22/14 14:49 Received: 09/24/14 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		09/29/14 13:09	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/29/14 13:09	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/29/14 13:09	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/29/14 13:09	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/29/14 13:09	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/29/14 13:09	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/29/14 13:09	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/29/14 13:09	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/29/14 13:09	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/29/14 13:09	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/29/14 13:09	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:09	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:09	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/29/14 13:09	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/29/14 13:09	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/29/14 13:09	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/29/14 13:09	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/29/14 13:09	127-18-4	
Toluene	ND	ug/L	1.0	1		09/29/14 13:09	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:09	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:09	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/29/14 13:09	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/29/14 13:09	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/29/14 13:09	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		09/29/14 13:09	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/29/14 13:09	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		09/29/14 13:09	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/29/14 13:09		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: MERP/8845
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178644001

METHOD BLANK: 1449565 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/30/14 10:17	

LABORATORY CONTROL SAMPLE: 1449566

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: 1449567 1449568

Parameter	Units	60178644001 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	149	150	99	100	70-130	1	20	

MATRIX SPIKE SAMPLE: 1449569

Parameter	Units	60178771001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	13.0	150	152	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: MERP/8856
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178644001

METHOD BLANK: 1451796 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/01/14 15:56	

LABORATORY CONTROL SAMPLE: 1451797

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: 1451798 1451799

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	132	131	88	87	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: MPRP/29069
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178644001

METHOD BLANK: 1449561
Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/30/14 17:14	
Antimony	ug/L	ND	10.0	09/30/14 17:14	
Arsenic	ug/L	ND	10.0	09/30/14 17:14	
Beryllium	ug/L	ND	1.0	09/30/14 17:14	
Cadmium	ug/L	ND	5.0	09/30/14 17:14	
Chromium	ug/L	ND	5.0	09/30/14 17:14	
Cobalt	ug/L	ND	5.0	09/30/14 17:14	
Copper	ug/L	ND	10.0	09/30/14 17:14	
Iron	ug/L	ND	50.0	10/01/14 12:20	
Lead	ug/L	ND	5.0	09/30/14 17:14	
Nickel	ug/L	ND	5.0	09/30/14 17:14	
Selenium	ug/L	ND	15.0	09/30/14 17:14	
Silver	ug/L	ND	7.0	09/30/14 17:14	
Thallium	ug/L	ND	20.0	09/30/14 17:14	
Zinc	ug/L	ND	50.0	09/30/14 17:14	

LABORATORY CONTROL SAMPLE: 1449562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9340	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	891	89	85-115	
Beryllium	ug/L	1000	944	94	85-115	
Cadmium	ug/L	1000	916	92	85-115	
Chromium	ug/L	1000	908	91	85-115	
Cobalt	ug/L	1000	956	96	85-115	
Copper	ug/L	1000	932	93	85-115	
Iron	ug/L	10000	9540	95	85-115	
Lead	ug/L	1000	943	94	85-115	
Nickel	ug/L	1000	947	95	85-115	
Selenium	ug/L	1000	923	92	85-115	
Silver	ug/L	500	458	92	85-115	
Thallium	ug/L	1000	926	93	85-115	
Zinc	ug/L	1000	904	90	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449563 1449564

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5560	50000	50000	55400	56000	100	101	70-130	1	8	
Antimony	ug/L	ND	5000	5000	4880	4920	98	98	70-130	1	7	
Arsenic	ug/L	598	5000	5000	5260	5360	93	95	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4640	4600	93	92	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	4730	4770	95	95	70-130	1	10	
Chromium	ug/L	139	5000	5000	4540	4560	88	88	70-130	0	10	
Cobalt	ug/L	ND	5000	5000	4590	4610	91	92	70-130	0	6	
Copper	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	11	
Iron	ug/L	454000	50000	50000	436000	456000	-36	6	70-130	5	10	M1
Lead	ug/L	172	5000	5000	4530	4500	87	87	70-130	1	10	
Nickel	ug/L	78.6	5000	5000	4570	4590	90	90	70-130	0	10	
Selenium	ug/L	ND	5000	5000	4940	4990	99	100	70-130	1	10	
Silver	ug/L	ND	2500	2500	2400	2400	96	96	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4050	4110	81	82	70-130	1	6	
Zinc	ug/L	2940	5000	5000	6800	6960	77	80	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: MPRP/29092
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178644001

METHOD BLANK: 1450900 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/30/14 14:57	
Antimony, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Arsenic, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Beryllium, Dissolved	ug/L	ND	1.0	09/30/14 14:57	
Cadmium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Chromium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Cobalt, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Copper, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Iron, Dissolved	ug/L	ND	50.0	09/30/14 14:57	
Lead, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Nickel, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Selenium, Dissolved	ug/L	ND	15.0	09/30/14 14:57	
Silver, Dissolved	ug/L	ND	7.0	09/30/14 14:57	
Thallium, Dissolved	ug/L	ND	20.0	09/30/14 14:57	
Zinc, Dissolved	ug/L	ND	50.0	09/30/14 14:57	

LABORATORY CONTROL SAMPLE: 1450901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9690	97	85-115	
Antimony, Dissolved	ug/L	1000	993	99	85-115	
Arsenic, Dissolved	ug/L	1000	944	94	85-115	
Beryllium, Dissolved	ug/L	1000	984	98	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9830	98	85-115	
Lead, Dissolved	ug/L	1000	994	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	963	96	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	975	97	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 T1-014
Pace Project No.: 60178644

QC Batch: MSV/64707 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178644001, 60178644002

METHOD BLANK: 1450736 Matrix: Water
Associated Lab Samples: 60178644001, 60178644002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/29/14 12:15	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,2-Dichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/29/14 12:15	
2-Butanone (MEK)	ug/L	ND	10.0	09/29/14 12:15	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/29/14 12:15	N2
Acetone	ug/L	ND	10.0	09/29/14 12:15	N2
Benzene	ug/L	ND	1.0	09/29/14 12:15	
Bromodichloromethane	ug/L	ND	1.0	09/29/14 12:15	
Bromoform	ug/L	ND	1.0	09/29/14 12:15	
Bromomethane	ug/L	ND	5.0	09/29/14 12:15	
Carbon tetrachloride	ug/L	ND	1.0	09/29/14 12:15	
Chloroethane	ug/L	ND	1.0	09/29/14 12:15	
Chloroform	ug/L	ND	1.0	09/29/14 12:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	N2
Ethylbenzene	ug/L	ND	1.0	09/29/14 12:15	
Methylene chloride	ug/L	ND	1.0	09/29/14 12:15	
Tetrachloroethene	ug/L	ND	1.0	09/29/14 12:15	
Toluene	ug/L	ND	1.0	09/29/14 12:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Trichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Vinyl chloride	ug/L	ND	1.0	09/29/14 12:15	
Xylene (Total)	ug/L	ND	3.0	09/29/14 12:15	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/29/14 12:15	
4-Bromofluorobenzene (S)	%	101	80-120	09/29/14 12:15	
Toluene-d8 (S)	%	100	80-120	09/29/14 12:15	

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	97	67-124	
1,2-Dichloroethane	ug/L	20	20.6	103	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	90.6	91	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.1	96	59-131	N2
Acetone	ug/L	100	91.4	91	38-134	N2
Benzene	ug/L	20	19.9	99	75-120	

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REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.3	101	68-125	
Bromoform	ug/L	20	20.7	104	65-127	
Bromomethane	ug/L	20	19.8	99	13-157	
Carbon tetrachloride	ug/L	20	19.9	99	70-131	
Chloroethane	ug/L	20	19.5	97	47-133	
Chloroform	ug/L	20	20.1	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.8	99	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	66-129	
Trichloroethene	ug/L	20	19.6	98	71-123	
Vinyl chloride	ug/L	20	21.3	107	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3660	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3600	90	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3770	94	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3820	95	33-140	
2-Butanone (MEK)	ug/L	20400	20000	40300	99	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19800	98	40-160	N2
Acetone	ug/L	62700	20000	84300	108	10-160	N2
Benzene	ug/L	ND	4000	3900	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3920	98	35-142	
Bromoform	ug/L	ND	4000	3860	97	45-142	
Bromomethane	ug/L	ND	4000	3550	89	10-158	
Carbon tetrachloride	ug/L	ND	4000	4050	101	70-140	
Chloroethane	ug/L	ND	4000	3590	90	19-152	
Chloroform	ug/L	ND	4000	3760	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3810	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3950	99	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4000	100	64-148	
Toluene	ug/L	ND	4000	3910	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3720	93	54-151	
Trichloroethene	ug/L	ND	4000	3850	96	71-149	
Vinyl chloride	ug/L	ND	4000	4160	104	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11700	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: OEXT/46288
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178644001

METHOD BLANK: 1448736
Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/26/14 08:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/26/14 08:51	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/26/14 08:51	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/26/14 08:51	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/26/14 08:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/26/14 08:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/26/14 08:51	
Hexachloroethane	ug/L	ND	5.0	09/26/14 08:51	
Naphthalene	ug/L	ND	5.0	09/26/14 08:51	
Nitrobenzene	ug/L	ND	5.0	09/26/14 08:51	
Pentachlorophenol	ug/L	ND	5.0	09/26/14 08:51	
Phenol	ug/L	ND	5.0	09/26/14 08:51	
2,4,6-Tribromophenol (S)	%	87	39-120	09/26/14 08:51	
2-Fluorobiphenyl (S)	%	90	39-120	09/26/14 08:51	
2-Fluorophenol (S)	%	44	17-120	09/26/14 08:51	
Nitrobenzene-d5 (S)	%	76	33-120	09/26/14 08:51	
Phenol-d6 (S)	%	28	11-120	09/26/14 08:51	
Terphenyl-d14 (S)	%	89	45-120	09/26/14 08:51	

LABORATORY CONTROL SAMPLE: 1448737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.4	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.7	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.6	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.7	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	51.3	103	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.6	43	24-120	
Hexachloroethane	ug/L	50	38.4	77	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	43.4	87	48-120	
Pentachlorophenol	ug/L	50	44.2	88	47-120	
Phenol	ug/L	50	16.5	33	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			88	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

MATRIX SPIKE SAMPLE: 1448738

Parameter	Units	60178584002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L		50	ND	43	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	50	ND	49	50-120	M1
2-Methylphenol(o-Cresol)	ug/L		50	ND	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L		50	ND	21	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	ND	44	10-160	
Hexachloro-1,3-butadiene	ug/L		50	ND	46	39-116	
Hexachlorocyclopentadiene	ug/L		100	ND	14	11-120	
Hexachloroethane	ug/L		50	ND	39	40-113	M1
Naphthalene	ug/L		50	ND	43	45-120	M1
Nitrobenzene	ug/L		50	26.2J	52	38-120	
Pentachlorophenol	ug/L	ND	50	27J	54	43-135	
Phenol	ug/L	ND	50	ND	23	13-112	
2,4,6-Tribromophenol (S)	%				54	39-120	
2-Fluorobiphenyl (S)	%				55	39-120	
2-Fluorophenol (S)	%				25	17-120	
Nitrobenzene-d5 (S)	%				55	33-120	P3
Phenol-d6 (S)	%				15	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 T1-014
Pace Project No.: 60178644

QC Batch: WET/50582
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178644001

METHOD BLANK: 1451404 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/30/14 17:24	

LABORATORY CONTROL SAMPLE: 1451405

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

MATRIX SPIKE SAMPLE: 1451407

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.6	43.5	58.3	114	78-114	

SAMPLE DUPLICATE: 1451406

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	88.2	85.5	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WET/50583 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178644001

METHOD BLANK: 1451409 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/30/14 17:32	

LABORATORY CONTROL SAMPLE: 1451410

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: 1451412

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	18.7	78	64-132	

SAMPLE DUPLICATE: 1451411

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.1	13.5	39	34	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WET/50538
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178644001

METHOD BLANK: 1450658
Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/29/14 08:38	

SAMPLE DUPLICATE: 1450659

Parameter	Units	60178552001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1760	1800	2	10	

SAMPLE DUPLICATE: 1450660

Parameter	Units	10282337003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3040	3020	1	10	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WET/50549
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178644001

SAMPLE DUPLICATE: 1450802

Parameter	Units	60178480001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WET/50470 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178644001

METHOD BLANK: 1448145 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/29/14 11:04	

LABORATORY CONTROL SAMPLE: 1448146

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	189	95	85-115	

SAMPLE DUPLICATE: 1448147

Parameter	Units	60178553002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	11.0	13.9	23	17	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WETA/31145 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178644001

METHOD BLANK: 1450270 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/27/14 10:52	

LABORATORY CONTROL SAMPLE: 1450271

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

MATRIX SPIKE SAMPLE: 1450272

Parameter	Units	60178269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	2	3.3	96	90-110	

MATRIX SPIKE SAMPLE: 1450273

Parameter	Units	60178346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1450274

Parameter	Units	60178347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	5.8	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

QC Batch: WETA/31165
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178644001

METHOD BLANK: 1451048 Matrix: Water
Associated Lab Samples: 60178644001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/01/14 09:16	

LABORATORY CONTROL SAMPLE: 1451049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.9	108	90-110	

MATRIX SPIKE SAMPLE: 1451050

Parameter	Units	60178130001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48.1	50	93.1	90	90-110	

MATRIX SPIKE SAMPLE: 1451052

Parameter	Units	60178258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	432	250	678	98	90-110	

SAMPLE DUPLICATE: 1451051

Parameter	Units	60178232002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56.7	53.7	5	25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

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.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-014
Pace Project No.: 60178644

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178644001	**T1-014**	EPA 200.7	MPRP/29069	EPA 200.7	ICP/21894
60178644001	**T1-014**	EPA 200.7	MPRP/29092	EPA 200.7	ICP/21897
60178644001	**T1-014**	EPA 245.1	MERP/8845	EPA 245.1	MERC/8801
60178644001	**T1-014**	EPA 245.1	MERP/8856	EPA 245.1	MERC/8811
60178644001	**T1-014**	EPA 625	OEXT/46288	EPA 625	MSSV/14880
60178644001	**T1-014**	EPA 624 Low	MSV/64707		
60178644002	**TRIP BLANK**	EPA 624 Low	MSV/64707		
60178644001	**T1-014**	EPA 1664A	WET/50582		
60178644001	**T1-014**	EPA 1664A	WET/50583		
60178644001	**T1-014**	SM 2540D	WET/50538		
60178644001	**T1-014**	SM 4500-H+B	WET/50549		
60178644001	**T1-014**	SM 5210B	WET/50470	SM 5210B	WET/50547
60178644001	**T1-014**	EPA 350.1	WETA/31145		
60178644001	**T1-014**	EPA 410.4	WETA/31165		

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Sample Condition Upon Receipt

WO# : 60178644

60178644

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☑ None ☐ Other ☑ 2P/C

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

Cooler Temperature: 3.6

Date and initials of person examining contents: 01/24/14

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. NA 24 14
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	14. Added 1.0 ml of H2SO4 to BP3S. 4.0/1.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed PV / Lot # of added preservative 12515 / 12B7
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: _____ Date: 01/24/14

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

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)	60178644
1	T1-014 2AG4U 1BP3U 1BP3S 1.5	OT	G	9/22/14	1449	—	—		~~14~~ 15	10	4	1	0	1BP3N 4.0					X	X	X	X	X	X	X	X	X	X	X	3A635		2 BP2U 5DG9U 01
2	TRIP BLANK	—		—	—	—	—		2	2																X						2DG9U 03
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	9-23-14	11:50	[signature] 872	9/23/14	11:50				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	9/24/14	0210	3.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 9/23/14

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

October 01, 2014

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

RE: Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

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

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

CERTIFICATIONS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

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 T1-015
Pace Project No.: 60178647

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178647001	**T1-015**	Water	09/23/14 11:02	09/24/14 02:10
60178647002	**TRIP BLANK**	Water	09/23/14 11:02	09/24/14 02:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178647001	**T1-015**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	PRG	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	JML	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178647002	**TRIP BLANK**	EPA 624 Low	PRG	28

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Sample: T1-015 **Lab ID: 60178647001** Collected: 09/23/14 11:02 Received: 09/24/14 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	**5020**	ug/L	375	1	09/29/14 10:15	09/30/14 17:28	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:28	7440-36-0	
Arsenic	**648**	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:28	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/29/14 10:15	09/30/14 17:28	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:28	7440-43-9	
Chromium	**141**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:28	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:28	7440-48-4	
Copper	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:28	7440-50-8	
Iron	**433000**	ug/L	250	1	09/29/14 10:15	10/01/14 12:32	7439-89-6	
Lead	**85.2**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:28	7439-92-1	
Nickel	**76.9**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:28	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/29/14 10:15	09/30/14 17:28	7782-49-2	
Silver	ND	ug/L	35.0	1	09/29/14 10:15	09/30/14 17:28	7440-22-4	
Thallium	ND	ug/L	100	1	09/29/14 10:15	09/30/14 17:28	7440-28-0	
Zinc	**2700**	ug/L	250	1	09/29/14 10:15	09/30/14 17:28	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	09/29/14 18:05	09/30/14 15:10	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:10	7440-36-0	
Arsenic, Dissolved	**409**	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:10	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/29/14 18:05	09/30/14 15:10	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:10	7440-43-9	
Chromium, Dissolved	**68.1**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:10	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:10	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:10	7440-50-8	
Iron, Dissolved	**48100**	ug/L	250	1	09/29/14 18:05	09/30/14 15:10	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:10	7439-92-1	
Nickel, Dissolved	**52.0**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:10	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/29/14 18:05	09/30/14 15:10	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/29/14 18:05	09/30/14 15:10	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/29/14 18:05	09/30/14 15:10	7440-28-0	
Zinc, Dissolved	**424**	ug/L	250	1	09/29/14 18:05	09/30/14 15:10	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**9.7**	ug/L	6.0	1	09/26/14 14:35	09/30/14 10:54	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	10/01/14 11:40	10/01/14 16:03	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/25/14 00:00	09/26/14 11:59	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/25/14 00:00	09/26/14 11:59	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2000	1	09/25/14 00:00	09/26/14 11:59		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Sample: T1-015 **Lab ID: 60178647001** Collected: 09/23/14 11:02 Received: 09/24/14 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	500	1	09/25/14 00:00	09/26/14 11:59	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	87-86-5	
Phenol	**1610**	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/25/14 00:00	09/26/14 11:59	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	93	%	33-120	1	09/25/14 00:00	09/26/14 11:59	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	1	09/25/14 00:00	09/26/14 11:59	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	1	09/25/14 00:00	09/26/14 11:59	1718-51-0	
Phenol-d6 (S)	27	%	11-120	1	09/25/14 00:00	09/26/14 11:59	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	1	09/25/14 00:00	09/26/14 11:59	367-12-4	
2,4,6-Tribromophenol (S)	98	%	39-120	1	09/25/14 00:00	09/26/14 11:59	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**35600**	ug/L	2000	200		09/24/14 13:23	67-64-1	N2
Benzene	ND	ug/L	200	200		09/24/14 13:23	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/24/14 13:23	75-27-4	
Bromoform	ND	ug/L	200	200		09/24/14 13:23	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/24/14 13:23	74-83-9	
2-Butanone (MEK)	**8790**	ug/L	2000	200		09/24/14 13:23	78-93-3	N2
Carbon tetrachloride	ND	ug/L	200	200		09/24/14 13:23	56-23-5	
Chloroethane	ND	ug/L	200	200		09/24/14 13:23	75-00-3	
Chloroform	ND	ug/L	200	200		09/24/14 13:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		09/24/14 13:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/24/14 13:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:23	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/24/14 13:23	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/24/14 13:23	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/24/14 13:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	2000	200		09/24/14 13:23	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/24/14 13:23	79-34-5	N2
Tetrachloroethene	ND	ug/L	200	200		09/24/14 13:23	127-18-4	
Toluene	ND	ug/L	200	200		09/24/14 13:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/24/14 13:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/24/14 13:23	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/24/14 13:23	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/24/14 13:23	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/24/14 13:23	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/24/14 13:23	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	200		09/24/14 13:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		09/24/14 13:23	17060-07-0	
Preservation pH	**7.0**		1.0	200		09/24/14 13:23		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**84.0**	mg/L	5.0	1		09/30/14 17:25		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Sample: T1-015 **Lab ID: 60178647001** Collected: 09/23/14 11:02 Received: 09/24/14 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	**12.0**	mg/L	5.0	1		09/30/14 17:33		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5560**	mg/L	5.0	1		09/29/14 08:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		09/29/14 13:26		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**8680**	mg/L	2.0	1	09/25/14 09:55	09/30/14 09:00		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**141**	mg/L	5.0	50		09/27/14 11:20	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**19500**	mg/L	2500	250		10/01/14 09:23		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Sample: TRIP BLANK **Lab ID: 60178647002** Collected: 09/23/14 11:02 Received: 09/24/14 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		09/24/14 11:30	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/24/14 11:30	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/24/14 11:30	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/24/14 11:30	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/24/14 11:30	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/24/14 11:30	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/24/14 11:30	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/24/14 11:30	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/24/14 11:30	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/24/14 11:30	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/24/14 11:30	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 11:30	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/24/14 11:30	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/24/14 11:30	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/24/14 11:30	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/24/14 11:30	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/24/14 11:30	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/24/14 11:30	127-18-4	
Toluene	ND	ug/L	1.0	1		09/24/14 11:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/24/14 11:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/24/14 11:30	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/24/14 11:30	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/24/14 11:30	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/24/14 11:30	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		09/24/14 11:30	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		09/24/14 11:30	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/24/14 11:30	17060-07-0	
Preservation pH	**7.0**		1.0	1		09/24/14 11:30		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: MERP/8845
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178647001

METHOD BLANK: 1449565 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/30/14 10:17	

LABORATORY CONTROL SAMPLE: 1449566

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: 1449567 1449568

Parameter	Units	60178644001 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	149	150	99	100	70-130	1	20	

MATRIX SPIKE SAMPLE: 1449569

Parameter	Units	60178771001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	13.0	150	152	93	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: MERP/8856
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178647001

METHOD BLANK: 1451796 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/01/14 15:56	

LABORATORY CONTROL SAMPLE: 1451797

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: 1451798 1451799

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	132	131	88	87	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: MPRP/29069
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178647001

METHOD BLANK: 1449561
Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/30/14 17:14	
Antimony	ug/L	ND	10.0	09/30/14 17:14	
Arsenic	ug/L	ND	10.0	09/30/14 17:14	
Beryllium	ug/L	ND	1.0	09/30/14 17:14	
Cadmium	ug/L	ND	5.0	09/30/14 17:14	
Chromium	ug/L	ND	5.0	09/30/14 17:14	
Cobalt	ug/L	ND	5.0	09/30/14 17:14	
Copper	ug/L	ND	10.0	09/30/14 17:14	
Iron	ug/L	ND	50.0	10/01/14 12:20	
Lead	ug/L	ND	5.0	09/30/14 17:14	
Nickel	ug/L	ND	5.0	09/30/14 17:14	
Selenium	ug/L	ND	15.0	09/30/14 17:14	
Silver	ug/L	ND	7.0	09/30/14 17:14	
Thallium	ug/L	ND	20.0	09/30/14 17:14	
Zinc	ug/L	ND	50.0	09/30/14 17:14	

LABORATORY CONTROL SAMPLE: 1449562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9340	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	891	89	85-115	
Beryllium	ug/L	1000	944	94	85-115	
Cadmium	ug/L	1000	916	92	85-115	
Chromium	ug/L	1000	908	91	85-115	
Cobalt	ug/L	1000	956	96	85-115	
Copper	ug/L	1000	932	93	85-115	
Iron	ug/L	10000	9540	95	85-115	
Lead	ug/L	1000	943	94	85-115	
Nickel	ug/L	1000	947	95	85-115	
Selenium	ug/L	1000	923	92	85-115	
Silver	ug/L	500	458	92	85-115	
Thallium	ug/L	1000	926	93	85-115	
Zinc	ug/L	1000	904	90	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449563 1449564

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5560	50000	50000	55400	56000	100	101	70-130	1	8	
Antimony	ug/L	ND	5000	5000	4880	4920	98	98	70-130	1	7	
Arsenic	ug/L	598	5000	5000	5260	5360	93	95	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4640	4600	93	92	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	4730	4770	95	95	70-130	1	10	
Chromium	ug/L	139	5000	5000	4540	4560	88	88	70-130	0	10	
Cobalt	ug/L	ND	5000	5000	4590	4610	91	92	70-130	0	6	
Copper	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	11	
Iron	ug/L	454000	50000	50000	436000	456000	-36	6	70-130	5	10	M1
Lead	ug/L	172	5000	5000	4530	4500	87	87	70-130	1	10	
Nickel	ug/L	78.6	5000	5000	4570	4590	90	90	70-130	0	10	
Selenium	ug/L	ND	5000	5000	4940	4990	99	100	70-130	1	10	
Silver	ug/L	ND	2500	2500	2400	2400	96	96	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4050	4110	81	82	70-130	1	6	
Zinc	ug/L	2940	5000	5000	6800	6960	77	80	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: MPRP/29092
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178647001

METHOD BLANK: 1450900
Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/30/14 14:57	
Antimony, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Arsenic, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Beryllium, Dissolved	ug/L	ND	1.0	09/30/14 14:57	
Cadmium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Chromium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Cobalt, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Copper, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Iron, Dissolved	ug/L	ND	50.0	09/30/14 14:57	
Lead, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Nickel, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Selenium, Dissolved	ug/L	ND	15.0	09/30/14 14:57	
Silver, Dissolved	ug/L	ND	7.0	09/30/14 14:57	
Thallium, Dissolved	ug/L	ND	20.0	09/30/14 14:57	
Zinc, Dissolved	ug/L	ND	50.0	09/30/14 14:57	

LABORATORY CONTROL SAMPLE: 1450901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9690	97	85-115	
Antimony, Dissolved	ug/L	1000	993	99	85-115	
Arsenic, Dissolved	ug/L	1000	944	94	85-115	
Beryllium, Dissolved	ug/L	1000	984	98	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9830	98	85-115	
Lead, Dissolved	ug/L	1000	994	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	963	96	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	975	97	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 T1-015
Pace Project No.: 60178647

QC Batch: MSV/64597 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178647001, 60178647002

METHOD BLANK: 1448086 Matrix: Water
Associated Lab Samples: 60178647001, 60178647002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/24/14 09:21	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,2-Dichloroethane	ug/L	ND	1.0	09/24/14 09:21	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/24/14 09:21	
2-Butanone (MEK)	ug/L	ND	10.0	09/24/14 09:21	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/24/14 09:21	N2
Acetone	ug/L	ND	10.0	09/24/14 09:21	N2
Benzene	ug/L	ND	1.0	09/24/14 09:21	
Bromodichloromethane	ug/L	ND	1.0	09/24/14 09:21	
Bromoform	ug/L	ND	1.0	09/24/14 09:21	
Bromomethane	ug/L	ND	5.0	09/24/14 09:21	
Carbon tetrachloride	ug/L	ND	1.0	09/24/14 09:21	
Chloroethane	ug/L	ND	1.0	09/24/14 09:21	
Chloroform	ug/L	ND	1.0	09/24/14 09:21	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	N2
Ethylbenzene	ug/L	ND	1.0	09/24/14 09:21	
Methylene chloride	ug/L	ND	1.0	09/24/14 09:21	
Tetrachloroethene	ug/L	ND	1.0	09/24/14 09:21	
Toluene	ug/L	ND	1.0	09/24/14 09:21	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Trichloroethene	ug/L	ND	1.0	09/24/14 09:21	
Vinyl chloride	ug/L	ND	1.0	09/24/14 09:21	
Xylene (Total)	ug/L	ND	3.0	09/24/14 09:21	N2
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/24/14 09:21	
4-Bromofluorobenzene (S)	%	98	80-120	09/24/14 09:21	
Toluene-d8 (S)	%	98	80-120	09/24/14 09:21	

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.9	100	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	67-127	N2
1,1,2-Trichloroethane	ug/L	20	21.3	106	67-124	
1,2-Dichloroethane	ug/L	20	20.1	101	70-126	
1,4-Dichlorobenzene	ug/L	20	20.2	101	74-120	
2-Butanone (MEK)	ug/L	100	96.1	96	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	103	103	59-131	N2
Acetone	ug/L	100	94.2	94	38-134	N2
Benzene	ug/L	20	19.5	97	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

LABORATORY CONTROL SAMPLE: 1448087

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.9	104	68-125	
Bromoform	ug/L	20	19.7	99	65-127	
Bromomethane	ug/L	20	23.0	115	13-157	
Carbon tetrachloride	ug/L	20	19.5	98	70-131	
Chloroethane	ug/L	20	18.4	92	47-133	
Chloroform	ug/L	20	19.3	96	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.4	102	68-127	N2
Ethylbenzene	ug/L	20	20.1	101	74-122	
Methylene chloride	ug/L	20	19.0	95	64-129	
Tetrachloroethene	ug/L	20	20.3	102	73-125	
Toluene	ug/L	20	19.7	98	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	66-129	
Trichloroethene	ug/L	20	21.0	105	71-123	
Vinyl chloride	ug/L	20	17.4	87	43-129	
Xylene (Total)	ug/L	60	62.5	104	75-121	N2
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4190	105	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3830	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3900	97	52-143	
1,2-Dichloroethane	ug/L	ND	4000	4040	101	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3840	96	33-140	
2-Butanone (MEK)	ug/L	29400	20000	47800	92	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19000	93	40-160	N2
Acetone	ug/L	66700	20000	86400	98	10-160	N2
Benzene	ug/L	ND	4000	3900	98	37-151	
Bromodichloromethane	ug/L	ND	4000	4110	103	35-142	
Bromoform	ug/L	ND	4000	3640	91	45-142	
Bromomethane	ug/L	ND	4000	3620	90	10-158	
Carbon tetrachloride	ug/L	ND	4000	4130	103	70-140	
Chloroethane	ug/L	ND	4000	3380	84	19-152	
Chloroform	ug/L	ND	4000	3940	98	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4120	103	34-147	N2
Ethylbenzene	ug/L	ND	4000	4110	103	40-142	
Methylene chloride	ug/L	ND	4000	3630	91	31-144	
Tetrachloroethene	ug/L	ND	4000	4210	105	64-148	
Toluene	ug/L	ND	4000	3930	98	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-151	
Trichloroethene	ug/L	ND	4000	4220	105	71-149	
Vinyl chloride	ug/L	ND	4000	3190	80	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

MATRIX SPIKE SAMPLE: 1448088

Parameter	Units	60178474001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	12500	104	37-144	N2
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	HS
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: OEXT/46288
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178647001

METHOD BLANK: 1448736
Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/26/14 08:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/26/14 08:51	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/26/14 08:51	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/26/14 08:51	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/26/14 08:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/26/14 08:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/26/14 08:51	
Hexachloroethane	ug/L	ND	5.0	09/26/14 08:51	
Naphthalene	ug/L	ND	5.0	09/26/14 08:51	
Nitrobenzene	ug/L	ND	5.0	09/26/14 08:51	
Pentachlorophenol	ug/L	ND	5.0	09/26/14 08:51	
Phenol	ug/L	ND	5.0	09/26/14 08:51	
2,4,6-Tribromophenol (S)	%	87	39-120	09/26/14 08:51	
2-Fluorobiphenyl (S)	%	90	39-120	09/26/14 08:51	
2-Fluorophenol (S)	%	44	17-120	09/26/14 08:51	
Nitrobenzene-d5 (S)	%	76	33-120	09/26/14 08:51	
Phenol-d6 (S)	%	28	11-120	09/26/14 08:51	
Terphenyl-d14 (S)	%	89	45-120	09/26/14 08:51	

LABORATORY CONTROL SAMPLE: 1448737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.4	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.7	85	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.6	75	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	31.7	63	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	51.3	103	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.7	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	42.6	43	24-120	
Hexachloroethane	ug/L	50	38.4	77	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	43.4	87	48-120	
Pentachlorophenol	ug/L	50	44.2	88	47-120	
Phenol	ug/L	50	16.5	33	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			78	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			88	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

MATRIX SPIKE SAMPLE: 1448738

Parameter	Units	60178584002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L		50	ND	43	44-120	M1
2,4,6-Trichlorophenol	ug/L	ND	50	ND	49	50-120	M1
2-Methylphenol(o-Cresol)	ug/L		50	ND	45	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L		50	ND	21	27-120	M1,N2
4,6-Dinitro-2-methylphenol	ug/L	ND	50	ND	44	10-160	
Hexachloro-1,3-butadiene	ug/L		50	ND	46	39-116	
Hexachlorocyclopentadiene	ug/L		100	ND	14	11-120	
Hexachloroethane	ug/L		50	ND	39	40-113	M1
Naphthalene	ug/L		50	ND	43	45-120	M1
Nitrobenzene	ug/L		50	26.2J	52	38-120	
Pentachlorophenol	ug/L	ND	50	27J	54	43-135	
Phenol	ug/L	ND	50	ND	23	13-112	
2,4,6-Tribromophenol (S)	%				54	39-120	
2-Fluorobiphenyl (S)	%				55	39-120	
2-Fluorophenol (S)	%				25	17-120	
Nitrobenzene-d5 (S)	%				55	33-120	P3
Phenol-d6 (S)	%				15	11-120	
Terphenyl-d14 (S)	%				55	45-120	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WET/50582 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178647001

METHOD BLANK: 1451404 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/30/14 17:24	

LABORATORY CONTROL SAMPLE: 1451405

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

MATRIX SPIKE SAMPLE: 1451407

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.6	43.5	58.3	114	78-114	

SAMPLE DUPLICATE: 1451406

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	88.2	85.5	3	18	

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WET/50583 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178647001

METHOD BLANK: 1451409 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/30/14 17:32	

LABORATORY CONTROL SAMPLE: 1451410

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: 1451412

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	18.7	78	64-132	

SAMPLE DUPLICATE: 1451411

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.1	13.5	39	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 T1-015
Pace Project No.: 60178647

QC Batch: WET/50539 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178647001

METHOD BLANK: 1450661 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/29/14 08:43	

SAMPLE DUPLICATE: 1450662

Parameter	Units	60178631001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	10.0	10.0	0	10	

SAMPLE DUPLICATE: 1450663

Parameter	Units	60178638001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	216	192	12	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WET/50549
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178647001

SAMPLE DUPLICATE: 1450802

Parameter	Units	60178480001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WET/50499 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178647001

METHOD BLANK: 1448804 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/30/14 08:39	

LABORATORY CONTROL SAMPLE: 1448805

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	188	95	85-115	

SAMPLE DUPLICATE: 1448806

Parameter	Units	60178639002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	169	223	28	17	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WETA/31145
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178647001

METHOD BLANK: 1450270 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/27/14 10:52	

LABORATORY CONTROL SAMPLE: 1450271

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

MATRIX SPIKE SAMPLE: 1450272

Parameter	Units	60178269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	2	3.3	96	90-110	

MATRIX SPIKE SAMPLE: 1450273

Parameter	Units	60178346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1450274

Parameter	Units	60178347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	5.8	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

QC Batch: WETA/31165 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60178647001

METHOD BLANK: 1451048 Matrix: Water
Associated Lab Samples: 60178647001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/01/14 09:16	

LABORATORY CONTROL SAMPLE: 1451049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.9	108	90-110	

MATRIX SPIKE SAMPLE: 1451050

Parameter	Units	60178130001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48.1	50	93.1	90	90-110	

MATRIX SPIKE SAMPLE: 1451052

Parameter	Units	60178258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	432	250	678	98	90-110	

SAMPLE DUPLICATE: 1451051

Parameter	Units	60178232002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56.7	53.7	5	25	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

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.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-015
Pace Project No.: 60178647

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178647001	**T1-015**	EPA 200.7	MPRP/29069	EPA 200.7	ICP/21894
60178647001	**T1-015**	EPA 200.7	MPRP/29092	EPA 200.7	ICP/21897
60178647001	**T1-015**	EPA 245.1	MERP/8845	EPA 245.1	MERC/8801
60178647001	**T1-015**	EPA 245.1	MERP/8856	EPA 245.1	MERC/8811
60178647001	**T1-015**	EPA 625	OEXT/46288	EPA 625	MSSV/14880
60178647001	**T1-015**	EPA 624 Low	MSV/64597		
60178647002	**TRIP BLANK**	EPA 624 Low	MSV/64597		
60178647001	**T1-015**	EPA 1664A	WET/50582		
60178647001	**T1-015**	EPA 1664A	WET/50583		
60178647001	**T1-015**	SM 2540D	WET/50539		
60178647001	**T1-015**	SM 4500-H+B	WET/50549		
60178647001	**T1-015**	SM 5210B	WET/50499	SM 5210B	WET/50572
60178647001	**T1-015**	EPA 350.1	WETA/31145		
60178647001	**T1-015**	EPA 410.4	WETA/31165		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60178647

60178647

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.0

Date and initials of person examining contents: 8 9/14 | 14

Temperature should be above freezing to 6°C

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, PH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Added HNO3 to TI-015 BP3N 5.3/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Added H2SO4 to TI-015 BP3S 5.5/4.0
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed: S Lot # of added preservative: 12787 12513
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. 1 of 5 VOA
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: 9/24/14

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

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

MATRIX CODE (see valid codes to left); SAMPLE TYPE (G=GRAB C=COMP)

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	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)	60178647
1	TI-015 BP3N, BP3S, 2(BP2U)	OT	G	9/23/14	1102	—	—		15	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X	2(AG4U)		5(DG9U) 3(AG3S) BP3U
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DG9U)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] FETI	9-23-14	11:50	[signature] 878	9/23/14	11:50				
SITE ADDRESS: BRIDGETON LF				Shardell MCK / PASI	9/24/14	0620	1.0	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: 9/23/14

Pace Analytical Services, Inc.
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October 07, 2014

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

RE: Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

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

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178705001	**SEP2014 TCLP**	Water	09/23/14 10:39	09/24/14 02:10
60178705002	**TRIP BLANK**	Water	09/23/14 00:00	09/24/14 02:10

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SAMPLE ANALYTE COUNT

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178705001	**SEP2014 TCLP**	EPA 8260	JKL	13
		EPA 1664A	CRT	1
		SM 2540B	MER	1
60178705002	**TRIP BLANK**	EPA 5030B/8260	PRG	28

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PROJECT NARRATIVE

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Date: October 07, 2014

Amended report revised 10/7/14 to include % Solids information from the TCLP preparation of the sample.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Sample: SEP2014 TCLP **Lab ID: 60178705001** Collected: 09/23/14 10:39 Received: 09/24/14 02:10 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; 09/26/14 00:00								
Benzene	ND	ug/L	250	500	5		09/29/14 13:33	71-43-2	
2-Butanone (MEK)	**24600**	ug/L	5000	200000	5		09/29/14 13:33	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		09/29/14 13:33	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		09/29/14 13:33	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		09/29/14 13:33	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		09/29/14 13:33	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		09/29/14 13:33	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		09/29/14 13:33	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		09/29/14 13:33	79-01-6	
Vinyl chloride	ND	ug/L	100	200	5		09/29/14 13:33	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%	80-120		5		09/29/14 13:33	17060-07-0	
Toluene-d8 (S)	100	%	80-120		5		09/29/14 13:33	2037-26-5	
4-Bromofluorobenzene (S)	98	%	80-120		5		09/29/14 13:33	460-00-4	
HEM, Oil and Grease	Analytical Method: EPA 1664A								
Oil and Grease	**126**	mg/L	5.0		1		09/30/14 10:32		
2540B Total Solids	Analytical Method: SM 2540B								
Total Solids	**17300**	mg/L	5.0		1		09/30/14 08:56		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Sample: TRIP BLANK **Lab ID: 60178705002** Collected: 09/23/14 00:00 Received: 09/24/14 02:10 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260								
Acetone	ND	ug/L	10.0		1		09/25/14 10:23	67-64-1	
Benzene	ND	ug/L	1.0		1		09/25/14 10:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0		1		09/25/14 10:23	75-27-4	
Bromoform	ND	ug/L	1.0		1		09/25/14 10:23	75-25-2	
Bromomethane	ND	ug/L	5.0		1		09/25/14 10:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0		1		09/25/14 10:23	78-93-3	
Carbon tetrachloride	ND	ug/L	1.0		1		09/25/14 10:23	56-23-5	
Chloroethane	ND	ug/L	1.0		1		09/25/14 10:23	75-00-3	
Chloroform	ND	ug/L	1.0		1		09/25/14 10:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0		1		09/25/14 10:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0		1		09/25/14 10:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0		1		09/25/14 10:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0		1		09/25/14 10:23	156-60-5	
Ethylbenzene	ND	ug/L	1.0		1		09/25/14 10:23	100-41-4	
Methylene chloride	ND	ug/L	1.0		1		09/25/14 10:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0		1		09/25/14 10:23	108-10-1	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0		1		09/25/14 10:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0		1		09/25/14 10:23	127-18-4	
Toluene	ND	ug/L	1.0		1		09/25/14 10:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0		1		09/25/14 10:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0		1		09/25/14 10:23	79-00-5	
Trichloroethene	ND	ug/L	1.0		1		09/25/14 10:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0		1		09/25/14 10:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0		1		09/25/14 10:23	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	101	%	80-120		1		09/25/14 10:23	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120		1		09/25/14 10:23	17060-07-0	
Toluene-d8 (S)	99	%	80-120		1		09/25/14 10:23	2037-26-5	
Preservation pH	**1.0**		0.10		1		09/25/14 10:23		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

QC Batch: MSV/64687
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV TCLP
Associated Lab Samples: 60178705001

METHOD BLANK: 1449845 Matrix: Water
Associated Lab Samples: 60178705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/29/14 12:33	
1,2-Dichloroethane	ug/L	ND	50.0	09/29/14 12:33	
2-Butanone (MEK)	ug/L	ND	1000	09/29/14 12:33	
Benzene	ug/L	ND	50.0	09/29/14 12:33	
Carbon tetrachloride	ug/L	ND	50.0	09/29/14 12:33	
Chlorobenzene	ug/L	ND	50.0	09/29/14 12:33	
Chloroform	ug/L	ND	200	09/29/14 12:33	
Tetrachloroethene	ug/L	ND	50.0	09/29/14 12:33	
Trichloroethene	ug/L	ND	50.0	09/29/14 12:33	
Vinyl chloride	ug/L	ND	20.0	09/29/14 12:33	
1,2-Dichloroethane-d4 (S)	%	101	80-120	09/29/14 12:33	
4-Bromofluorobenzene (S)	%	100	80-120	09/29/14 12:33	
Toluene-d8 (S)	%	100	80-120	09/29/14 12:33	

LABORATORY CONTROL SAMPLE: 1449846

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	882	88	78-126	
1,2-Dichloroethane	ug/L	1000	873	87	77-123	
2-Butanone (MEK)	ug/L	5000	4670	93	52-145	
Benzene	ug/L	1000	868	87	80-120	
Carbon tetrachloride	ug/L	1000	894	89	78-128	
Chlorobenzene	ug/L	1000	897	90	80-120	
Chloroform	ug/L	1000	815	81	79-120	
Tetrachloroethene	ug/L	1000	876	88	80-121	
Trichloroethene	ug/L	1000	853	85	80-120	
Vinyl chloride	ug/L	1000	833	83	59-120	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1449847

Parameter	Units	60178387001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	100000	83000	83	60-144	
1,2-Dichloroethane	ug/L	ND	100000	103000	103	49-148	
2-Butanone (MEK)	ug/L	ND	500000	476000	95	36-145	
Benzene	ug/L	307 mg/L	100000	405000	98	37-157	

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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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

MATRIX SPIKE SAMPLE: 1449847

Parameter	Units	60178387001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Carbon tetrachloride	ug/L	ND	100000	95100	92	68-142	
Chlorobenzene	ug/L	ND	100000	92700	91	66-133	
Chloroform	ug/L	ND	100000	80600	81	66-127	
Tetrachloroethene	ug/L	ND	100000	95300	93	69-133	
Trichloroethene	ug/L	ND	100000	91700	89	61-135	
Vinyl chloride	ug/L	ND	100000	67700	68	44-128	
1,2-Dichloroethane-d4 (S)	%				98	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				99	80-120	

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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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

QC Batch: MSV/64633
QC Batch Method: EPA 5030B/8260
Analysis Method: EPA 5030B/8260
Analysis Description: 8260 MSV Water 10 mL Purge
Associated Lab Samples: 60178705002

METHOD BLANK: 1448824 Matrix: Water
Associated Lab Samples: 60178705002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/25/14 10:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/25/14 10:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/25/14 10:07	
1,2-Dichloroethane	ug/L	ND	1.0	09/25/14 10:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/25/14 10:07	
2-Butanone (MEK)	ug/L	ND	10.0	09/25/14 10:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/25/14 10:07	
Acetone	ug/L	ND	10.0	09/25/14 10:07	
Benzene	ug/L	ND	1.0	09/25/14 10:07	
Bromodichloromethane	ug/L	ND	1.0	09/25/14 10:07	
Bromoform	ug/L	ND	1.0	09/25/14 10:07	
Bromomethane	ug/L	ND	5.0	09/25/14 10:07	
Carbon tetrachloride	ug/L	ND	1.0	09/25/14 10:07	
Chloroethane	ug/L	ND	1.0	09/25/14 10:07	
Chloroform	ug/L	ND	1.0	09/25/14 10:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/25/14 10:07	
Ethylbenzene	ug/L	ND	1.0	09/25/14 10:07	
Methylene chloride	ug/L	ND	1.0	09/25/14 10:07	
Tetrachloroethene	ug/L	ND	1.0	09/25/14 10:07	
Toluene	ug/L	ND	1.0	09/25/14 10:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/25/14 10:07	
Trichloroethene	ug/L	ND	1.0	09/25/14 10:07	
Vinyl chloride	ug/L	ND	1.0	09/25/14 10:07	
Xylene (Total)	ug/L	ND	3.0	09/25/14 10:07	
1,2-Dichloroethane-d4 (S)	%	100	80-120	09/25/14 10:07	
4-Bromofluorobenzene (S)	%	101	80-120	09/25/14 10:07	
Toluene-d8 (S)	%	100	80-120	09/25/14 10:07	

LABORATORY CONTROL SAMPLE: 1448825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.5	97	80-121	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	99	73-124	
1,1,2-Trichloroethane	ug/L	20	20.6	103	80-120	
1,2-Dichloroethane	ug/L	20	19.3	97	77-123	
1,4-Dichlorobenzene	ug/L	20	19.5	98	80-120	
2-Butanone (MEK)	ug/L	100	92.6	93	52-145	
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.7	97	71-131	
Acetone	ug/L	100	87.2	87	32-155	
Benzene	ug/L	20	18.5	92	80-120	

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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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

LABORATORY CONTROL SAMPLE: 1448825

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.4	102	80-120	
Bromoform	ug/L	20	19.2	96	73-124	
Bromomethane	ug/L	20	21.6	108	31-144	
Carbon tetrachloride	ug/L	20	18.9	95	78-128	
Chloroethane	ug/L	20	17.0	85	55-137	
Chloroform	ug/L	20	18.6	93	79-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	98	80-120	
Ethylbenzene	ug/L	20	19.7	98	80-121	
Methylene chloride	ug/L	20	17.2	86	73-126	
Tetrachloroethene	ug/L	20	20.4	102	80-121	
Toluene	ug/L	20	19.0	95	80-122	
trans-1,2-Dichloroethene	ug/L	20	18.9	94	79-121	
Trichloroethene	ug/L	20	19.8	99	80-120	
Vinyl chloride	ug/L	20	16.5	83	59-120	
Xylene (Total)	ug/L	60	60.8	101	80-121	
1,2-Dichloroethane-d4 (S)	%			98	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

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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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

QC Batch: WET/50567 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178705001

METHOD BLANK: 1451015 Matrix: Water
Associated Lab Samples: 60178705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/30/14 10:27	

LABORATORY CONTROL SAMPLE: 1451016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.8	107	78-114	

MATRIX SPIKE SAMPLE: 1451017

Parameter	Units	60178163001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	6.9	40.8	45.5	95	78-114	

SAMPLE DUPLICATE: 1451018

Parameter	Units	60178165001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	17.4	17.2	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: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

QC Batch: WET/50540 Analysis Method: SM 2540B
QC Batch Method: SM 2540B Analysis Description: 2540B Total Solids
Associated Lab Samples: 60178705001

METHOD BLANK: 1450664 Matrix: Water
Associated Lab Samples: 60178705001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	09/30/14 08:55	

LABORATORY CONTROL SAMPLE: 1450665

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	1020	102	80-120	

SAMPLE DUPLICATE: 1450666

Parameter	Units	60178604001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	14000	14100	0	10	

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REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

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.

BATCH QUALIFIERS

Batch: MSV/64633

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60178705

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178705001	**SEP2014 TCLP**	EPA 8260	MSV/64687		
60178705002	**TRIP BLANK**	EPA 5030B/8260	MSV/64633		
60178705001	**SEP2014 TCLP**	EPA 1664A	WET/50567		
60178705001	**SEP2014 TCLP**	SM 2540B	WET/50540		

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Sample Condition Upon Receipt

WO# : 60178705

60178705

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 ☑ Wet

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

Cooler Temperature: 0.6

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: S 9/24/14

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.
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: 9/25

CHAIN-OF-CUSTODY / Analytical Request Document

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

Pace Analytical® www.pacelabs.com

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:	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

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: MO

Section D Required Client Information

Valid Matrix Codes

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

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

Pace Project No./ Lab I.D.: 60178705

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Total VOC 8260	TCLP VOC EPA 8260	~~TCLP SVOC EPA 8270~~	~~TCLP RCRA 8 6010/7470~~	~~TCLP PEST EPA 8081~~	~~TCLP HERB EPA 8151~~	Total solids	O+G			Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	SEP2014 TCLP	OT	C	—	—	9/23/14	1039		5	3	2									✓					✓	✓				2(AG1U) 2(AG3S) A P1U 001
2	TRIP BLANK	—	—	—	—	—	—		2				2						✓											2(DG9H) TB 002
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] FBI	9-23-14	11:50	[signature] 872	9/23/14	11:50				
				Chardelle MCL/PASI	9/24/14	0210	6.6	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/23/14

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.08, 12-Oct-2007

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TCLP/SPLP Determination of Percent Solids

(Only if sample is liquid or semi-liquid. Skip if sample is obviously 100% solid.)

Date: 9/26/14 Batch: 6605

Analyst: ZNB Balance ID: 6000XT5 Reviewed by: [illegible]

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)
60178705-001	117.8	219.5	123.0	1.3	118.2	218.8	3.6	95.8	100.3	5.4	1.3	—	0	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

CAM 9/26/14

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.
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October 02, 2014

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

RE: Project: BRIDGETON T1-016
Pace Project No.: 60178771

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 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 T1-016
Pace Project No.: 60178771

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 T1-016
Pace Project No.: 60178771

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178771001	**T1-016**	Water	09/24/14 09:30	09/25/14 02:50
60178771002	**TRIP BLANK**	Water	09/24/14 09:30	09/25/14 02:50

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON T1-016
Pace Project No.: 60178771

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178771001	**T1-016**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178771002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON T1-016
Pace Project No.: 60178771

Sample: T1-016 **Lab ID: 60178771001** Collected: 09/24/14 09:30 Received: 09/25/14 02:50 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	**5070**	ug/L	375	1	09/29/14 10:15	09/30/14 17:35	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:35	7440-36-0	
Arsenic	**634**	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:35	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/29/14 10:15	09/30/14 17:35	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:35	7440-43-9	
Chromium	**145**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:35	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:35	7440-48-4	
Copper	ND	ug/L	50.0	1	09/29/14 10:15	09/30/14 17:35	7440-50-8	
Iron	**471000**	ug/L	250	1	09/29/14 10:15	10/01/14 12:34	7439-89-6	
Lead	**96.3**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:35	7439-92-1	
Nickel	**75.8**	ug/L	25.0	1	09/29/14 10:15	09/30/14 17:35	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/29/14 10:15	09/30/14 17:35	7782-49-2	
Silver	ND	ug/L	35.0	1	09/29/14 10:15	09/30/14 17:35	7440-22-4	
Thallium	ND	ug/L	100	1	09/29/14 10:15	09/30/14 17:35	7440-28-0	
Zinc	**3290**	ug/L	250	1	09/29/14 10:15	09/30/14 17:35	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	09/29/14 18:05	09/30/14 15:15	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:15	7440-36-0	
Arsenic, Dissolved	**480**	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:15	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/29/14 18:05	09/30/14 15:15	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:15	7440-43-9	
Chromium, Dissolved	**85.8**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:15	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:15	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:15	7440-50-8	
Iron, Dissolved	**70000**	ug/L	250	1	09/29/14 18:05	09/30/14 15:15	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:15	7439-92-1	
Nickel, Dissolved	**65.4**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:15	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/29/14 18:05	09/30/14 15:15	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/29/14 18:05	09/30/14 15:15	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/29/14 18:05	09/30/14 15:15	7440-28-0	
Zinc, Dissolved	**575**	ug/L	250	1	09/29/14 18:05	09/30/14 15:15	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**13.0**	ug/L	6.0	1	09/26/14 14:35	09/30/14 10:57	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	10/01/14 11:40	10/01/14 16:05	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/26/14 00:00	09/28/14 12:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/26/14 00:00	09/28/14 12:18	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2000	1	09/26/14 00:00	09/28/14 12:18		N2

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON T1-016
Pace Project No.: 60178771

Sample: T1-016 **Lab ID: 60178771001** Collected: 09/24/14 09:30 Received: 09/25/14 02:50 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	500	1	09/26/14 00:00	09/28/14 12:18	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	87-86-5	
Phenol	**2820**	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/26/14 00:00	09/28/14 12:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	97	%	33-120	1	09/26/14 00:00	09/28/14 12:18	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	1	09/26/14 00:00	09/28/14 12:18	321-60-8	
Terphenyl-d14 (S)	83	%	45-120	1	09/26/14 00:00	09/28/14 12:18	1718-51-0	
Phenol-d6 (S)	28	%	11-120	1	09/26/14 00:00	09/28/14 12:18	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	1	09/26/14 00:00	09/28/14 12:18	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	1	09/26/14 00:00	09/28/14 12:18	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**49800**	ug/L	1000	100		09/29/14 14:20	67-64-1	N2
Benzene	ND	ug/L	100	100		09/29/14 14:20	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/29/14 14:20	75-27-4	
Bromoform	ND	ug/L	100	100		09/29/14 14:20	75-25-2	
Bromomethane	ND	ug/L	500	100		09/29/14 14:20	74-83-9	
2-Butanone (MEK)	**17100**	ug/L	1000	100		09/29/14 14:20	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/29/14 14:20	56-23-5	
Chloroethane	ND	ug/L	100	100		09/29/14 14:20	75-00-3	
Chloroform	ND	ug/L	100	100		09/29/14 14:20	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/29/14 14:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/29/14 14:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:20	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:20	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/29/14 14:20	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/29/14 14:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/29/14 14:20	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/29/14 14:20	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/29/14 14:20	127-18-4	
Toluene	ND	ug/L	100	100		09/29/14 14:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/29/14 14:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/29/14 14:20	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/29/14 14:20	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/29/14 14:20	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/29/14 14:20	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	100		09/29/14 14:20	460-00-4	HS
Toluene-d8 (S)	101	%	80-120	100		09/29/14 14:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	100		09/29/14 14:20	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/29/14 14:20		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**209**	mg/L	5.0	1		09/30/14 17:29		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON T1-016
Pace Project No.: 60178771

Sample: T1-016 **Lab ID: 60178771001** Collected: 09/24/14 09:30 Received: 09/25/14 02:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.3**	mg/L	5.0	1		09/30/14 17:34		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1580**	mg/L	5.0	1		10/01/14 09:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		09/30/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**13800**	mg/L	2.0	1	09/25/14 14:46	09/30/14 11:17		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**193**	mg/L	5.0	50		09/27/14 11:21	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**25000**	mg/L	2500	250		10/01/14 09:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON T1-016
Pace Project No.: 60178771

Sample: TRIP BLANK **Lab ID: 60178771002** Collected: 09/24/14 09:30 Received: 09/25/14 02:50 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		09/29/14 13:23	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/29/14 13:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/29/14 13:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/29/14 13:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/29/14 13:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/29/14 13:23	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/29/14 13:23	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/29/14 13:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/29/14 13:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/29/14 13:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/29/14 13:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:23	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:23	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/29/14 13:23	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/29/14 13:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/29/14 13:23	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/29/14 13:23	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/29/14 13:23	127-18-4	
Toluene	ND	ug/L	1.0	1		09/29/14 13:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/29/14 13:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/29/14 13:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/29/14 13:23	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		09/29/14 13:23	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		09/29/14 13:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		09/29/14 13:23	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/29/14 13:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: MERP/8845
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178771001

METHOD BLANK: 1449565 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/30/14 10:17	

LABORATORY CONTROL SAMPLE: 1449566

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: 1449567 1449568

Parameter	Units	60178644001 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	149	150	99	100	70-130	1	20	

MATRIX SPIKE SAMPLE: 1449569

Parameter	Units	60178771001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	13.0	150	152	93	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 T1-016
Pace Project No.: 60178771

QC Batch: MERP/8856
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178771001

METHOD BLANK: 1451796 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/01/14 15:56	

LABORATORY CONTROL SAMPLE: 1451797

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: 1451798 1451799

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	132	131	88	87	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 T1-016
Pace Project No.: 60178771

QC Batch: MPRP/29069
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178771001

METHOD BLANK: 1449561
Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/30/14 17:14	
Antimony	ug/L	ND	10.0	09/30/14 17:14	
Arsenic	ug/L	ND	10.0	09/30/14 17:14	
Beryllium	ug/L	ND	1.0	09/30/14 17:14	
Cadmium	ug/L	ND	5.0	09/30/14 17:14	
Chromium	ug/L	ND	5.0	09/30/14 17:14	
Cobalt	ug/L	ND	5.0	09/30/14 17:14	
Copper	ug/L	ND	10.0	09/30/14 17:14	
Iron	ug/L	ND	50.0	10/01/14 12:20	
Lead	ug/L	ND	5.0	09/30/14 17:14	
Nickel	ug/L	ND	5.0	09/30/14 17:14	
Selenium	ug/L	ND	15.0	09/30/14 17:14	
Silver	ug/L	ND	7.0	09/30/14 17:14	
Thallium	ug/L	ND	20.0	09/30/14 17:14	
Zinc	ug/L	ND	50.0	09/30/14 17:14	

LABORATORY CONTROL SAMPLE: 1449562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9340	93	85-115	
Antimony	ug/L	1000	952	95	85-115	
Arsenic	ug/L	1000	891	89	85-115	
Beryllium	ug/L	1000	944	94	85-115	
Cadmium	ug/L	1000	916	92	85-115	
Chromium	ug/L	1000	908	91	85-115	
Cobalt	ug/L	1000	956	96	85-115	
Copper	ug/L	1000	932	93	85-115	
Iron	ug/L	10000	9540	95	85-115	
Lead	ug/L	1000	943	94	85-115	
Nickel	ug/L	1000	947	95	85-115	
Selenium	ug/L	1000	923	92	85-115	
Silver	ug/L	500	458	92	85-115	
Thallium	ug/L	1000	926	93	85-115	
Zinc	ug/L	1000	904	90	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1449563 1449564

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5560	50000	50000	55400	56000	100	101	70-130	1	8	
Antimony	ug/L	ND	5000	5000	4880	4920	98	98	70-130	1	7	
Arsenic	ug/L	598	5000	5000	5260	5360	93	95	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	4640	4600	93	92	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	4730	4770	95	95	70-130	1	10	
Chromium	ug/L	139	5000	5000	4540	4560	88	88	70-130	0	10	
Cobalt	ug/L	ND	5000	5000	4590	4610	91	92	70-130	0	6	
Copper	ug/L	ND	5000	5000	4900	4910	98	98	70-130	0	11	
Iron	ug/L	454000	50000	50000	436000	456000	-36	6	70-130	5	10	M1
Lead	ug/L	172	5000	5000	4530	4500	87	87	70-130	1	10	
Nickel	ug/L	78.6	5000	5000	4570	4590	90	90	70-130	0	10	
Selenium	ug/L	ND	5000	5000	4940	4990	99	100	70-130	1	10	
Silver	ug/L	ND	2500	2500	2400	2400	96	96	70-130	0	10	
Thallium	ug/L	ND	5000	5000	4050	4110	81	82	70-130	1	6	
Zinc	ug/L	2940	5000	5000	6800	6960	77	80	70-130	2	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: MPRP/29092
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178771001

METHOD BLANK: 1450900 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/30/14 14:57	
Antimony, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Arsenic, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Beryllium, Dissolved	ug/L	ND	1.0	09/30/14 14:57	
Cadmium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Chromium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Cobalt, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Copper, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Iron, Dissolved	ug/L	ND	50.0	09/30/14 14:57	
Lead, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Nickel, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Selenium, Dissolved	ug/L	ND	15.0	09/30/14 14:57	
Silver, Dissolved	ug/L	ND	7.0	09/30/14 14:57	
Thallium, Dissolved	ug/L	ND	20.0	09/30/14 14:57	
Zinc, Dissolved	ug/L	ND	50.0	09/30/14 14:57	

LABORATORY CONTROL SAMPLE: 1450901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9690	97	85-115	
Antimony, Dissolved	ug/L	1000	993	99	85-115	
Arsenic, Dissolved	ug/L	1000	944	94	85-115	
Beryllium, Dissolved	ug/L	1000	984	98	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9830	98	85-115	
Lead, Dissolved	ug/L	1000	994	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	963	96	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	975	97	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 T1-016
Pace Project No.: 60178771

QC Batch: MSV/64707
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60178771001, 60178771002

METHOD BLANK: 1450736
Matrix: Water
Associated Lab Samples: 60178771001, 60178771002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/29/14 12:15	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,2-Dichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/29/14 12:15	
2-Butanone (MEK)	ug/L	ND	10.0	09/29/14 12:15	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/29/14 12:15	N2
Acetone	ug/L	ND	10.0	09/29/14 12:15	N2
Benzene	ug/L	ND	1.0	09/29/14 12:15	
Bromodichloromethane	ug/L	ND	1.0	09/29/14 12:15	
Bromoform	ug/L	ND	1.0	09/29/14 12:15	
Bromomethane	ug/L	ND	5.0	09/29/14 12:15	
Carbon tetrachloride	ug/L	ND	1.0	09/29/14 12:15	
Chloroethane	ug/L	ND	1.0	09/29/14 12:15	
Chloroform	ug/L	ND	1.0	09/29/14 12:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	N2
Ethylbenzene	ug/L	ND	1.0	09/29/14 12:15	
Methylene chloride	ug/L	ND	1.0	09/29/14 12:15	
Tetrachloroethene	ug/L	ND	1.0	09/29/14 12:15	
Toluene	ug/L	ND	1.0	09/29/14 12:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Trichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Vinyl chloride	ug/L	ND	1.0	09/29/14 12:15	
Xylene (Total)	ug/L	ND	3.0	09/29/14 12:15	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/29/14 12:15	
4-Bromofluorobenzene (S)	%	101	80-120	09/29/14 12:15	
Toluene-d8 (S)	%	100	80-120	09/29/14 12:15	

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	97	67-124	
1,2-Dichloroethane	ug/L	20	20.6	103	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	90.6	91	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.1	96	59-131	N2
Acetone	ug/L	100	91.4	91	38-134	N2
Benzene	ug/L	20	19.9	99	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.3	101	68-125	
Bromoform	ug/L	20	20.7	104	65-127	
Bromomethane	ug/L	20	19.8	99	13-157	
Carbon tetrachloride	ug/L	20	19.9	99	70-131	
Chloroethane	ug/L	20	19.5	97	47-133	
Chloroform	ug/L	20	20.1	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.8	99	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	66-129	
Trichloroethene	ug/L	20	19.6	98	71-123	
Vinyl chloride	ug/L	20	21.3	107	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3660	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3600	90	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3770	94	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3820	95	33-140	
2-Butanone (MEK)	ug/L	20400	20000	40300	99	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19800	98	40-160	N2
Acetone	ug/L	62700	20000	84300	108	10-160	N2
Benzene	ug/L	ND	4000	3900	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3920	98	35-142	
Bromoform	ug/L	ND	4000	3860	97	45-142	
Bromomethane	ug/L	ND	4000	3550	89	10-158	
Carbon tetrachloride	ug/L	ND	4000	4050	101	70-140	
Chloroethane	ug/L	ND	4000	3590	90	19-152	
Chloroform	ug/L	ND	4000	3760	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3810	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3950	99	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4000	100	64-148	
Toluene	ug/L	ND	4000	3910	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3720	93	54-151	
Trichloroethene	ug/L	ND	4000	3850	96	71-149	
Vinyl chloride	ug/L	ND	4000	4160	104	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11700	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: OEXT/46315
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178771001

METHOD BLANK: 1449446
Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/28/14 09:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/28/14 09:31	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/28/14 09:31	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/28/14 09:31	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/28/14 09:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/28/14 09:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/28/14 09:31	
Hexachloroethane	ug/L	ND	5.0	09/28/14 09:31	
Naphthalene	ug/L	ND	5.0	09/28/14 09:31	
Nitrobenzene	ug/L	ND	5.0	09/28/14 09:31	
Pentachlorophenol	ug/L	ND	5.0	09/28/14 09:31	
Phenol	ug/L	ND	5.0	09/28/14 09:31	
2,4,6-Tribromophenol (S)	%	94	39-120	09/28/14 09:31	
2-Fluorobiphenyl (S)	%	74	39-120	09/28/14 09:31	
2-Fluorophenol (S)	%	41	17-120	09/28/14 09:31	
Nitrobenzene-d5 (S)	%	82	33-120	09/28/14 09:31	
Phenol-d6 (S)	%	25	11-120	09/28/14 09:31	
Terphenyl-d14 (S)	%	87	45-120	09/28/14 09:31	

LABORATORY CONTROL SAMPLE: 1449447

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.8	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	46.9	94	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	41.2	82	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	36.8	74	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	49.5	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	36.8	74	44-116	
Hexachlorocyclopentadiene	ug/L	100	46.3	46	24-120	
Hexachloroethane	ug/L	50	43.4	87	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	45.8	92	48-120	
Pentachlorophenol	ug/L	50	46.1	92	47-120	
Phenol	ug/L	50	16.5	33	16-112	
2,4,6-Tribromophenol (S)	%			116	39-120	
2-Fluorobiphenyl (S)	%			92	39-120	
2-Fluorophenol (S)	%			44	17-120	
Nitrobenzene-d5 (S)	%			87	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

MATRIX SPIKE SAMPLE: 1449448

Parameter	Units	60178771001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3160	63	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4870	97	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	2970	59	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	5000	4250	49	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5110	102	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3260	65	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4440	44	11-120	
Hexachloroethane	ug/L	ND	5000	2970	59	40-113	
Naphthalene	ug/L	ND	5000	3170	61	45-120	
Nitrobenzene	ug/L	ND	5000	4040	81	38-120	
Pentachlorophenol	ug/L	ND	5000	4440	89	43-135	
Phenol	ug/L	2820	5000	4040	25	13-112	
2,4,6-Tribromophenol (S)	%				85	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				25	17-120	
Nitrobenzene-d5 (S)	%				86	33-120	
Phenol-d6 (S)	%				25	11-120	
Terphenyl-d14 (S)	%				78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: WET/50582
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178771001

METHOD BLANK: 1451404 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/30/14 17:24	

LABORATORY CONTROL SAMPLE: 1451405

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

MATRIX SPIKE SAMPLE: 1451407

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	8.6	43.5	58.3	114	78-114	

SAMPLE DUPLICATE: 1451406

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	88.2	85.5	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: WET/50583 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178771001

METHOD BLANK: 1451409 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/30/14 17:32	

LABORATORY CONTROL SAMPLE: 1451410

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: 1451412

Parameter	Units	60178275001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	18.7	78	64-132	

SAMPLE DUPLICATE: 1451411

Parameter	Units	60178644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.1	13.5	39	34	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: WET/50578
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178771001

METHOD BLANK: 1451266
Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/01/14 09:35	

SAMPLE DUPLICATE: 1451267

Parameter	Units	60178763002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1880	1650	13	10	D6

SAMPLE DUPLICATE: 1451268

Parameter	Units	60178773001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6.0	6.0	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

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

QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: WET/50573
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178771001

SAMPLE DUPLICATE: 1451043

Parameter	Units	60178781001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	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 T1-016
Pace Project No.: 60178771

QC Batch: WET/50504 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178771001

METHOD BLANK: 1448996 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/30/14 10:02	

LABORATORY CONTROL SAMPLE: 1448997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	97	85-115	

SAMPLE DUPLICATE: 1448998

Parameter	Units	60178764001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	547	573	5	17	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON T1-016
Pace Project No.: 60178771

QC Batch: WETA/31145
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178771001

METHOD BLANK: 1450270 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/27/14 10:52	

LABORATORY CONTROL SAMPLE: 1450271

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

MATRIX SPIKE SAMPLE: 1450272

Parameter	Units	60178269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	2	3.3	96	90-110	

MATRIX SPIKE SAMPLE: 1450273

Parameter	Units	60178346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1450274

Parameter	Units	60178347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	5.8	3	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 T1-016
Pace Project No.: 60178771

QC Batch: WETA/31165
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178771001

METHOD BLANK: 1451048 Matrix: Water
Associated Lab Samples: 60178771001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/01/14 09:16	

LABORATORY CONTROL SAMPLE: 1451049

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.9	108	90-110	

MATRIX SPIKE SAMPLE: 1451050

Parameter	Units	60178130001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	48.1	50	93.1	90	90-110	

MATRIX SPIKE SAMPLE: 1451052

Parameter	Units	60178258001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	432	250	678	98	90-110	

SAMPLE DUPLICATE: 1451051

Parameter	Units	60178232002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56.7	53.7	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 T1-016
Pace Project No.: 60178771

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 T1-016
Pace Project No.: 60178771

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178771001	**T1-016**	EPA 200.7	MPRP/29069	EPA 200.7	ICP/21894
60178771001	**T1-016**	EPA 200.7	MPRP/29092	EPA 200.7	ICP/21897
60178771001	**T1-016**	EPA 245.1	MERP/8845	EPA 245.1	MERC/8801
60178771001	**T1-016**	EPA 245.1	MERP/8856	EPA 245.1	MERC/8811
60178771001	**T1-016**	EPA 625	OEXT/46315	EPA 625	MSSV/14892
60178771001	**T1-016**	EPA 624 Low	MSV/64707		
60178771002	**TRIP BLANK**	EPA 624 Low	MSV/64707		
60178771001	**T1-016**	EPA 1664A	WET/50582		
60178771001	**T1-016**	EPA 1664A	WET/50583		
60178771001	**T1-016**	SM 2540D	WET/50578		
60178771001	**T1-016**	SM 4500-H+B	WET/50573		
60178771001	**T1-016**	SM 5210B	WET/50504	SM 5210B	WET/50575
60178771001	**T1-016**	EPA 350.1	WETA/31145		
60178771001	**T1-016**	EPA 410.4	WETA/31165		

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Sample Condition Upon Receipt

WO#: 60178771

60178771

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: 7.0

Date and initials of person examining contents: CW 9/25/14

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. 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	Added 2.5 mL HNO_3 initial pH 6.0 final pH = 4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14. Add 1.0 mL H_2SO_4 initial pH = 6.0 final pH = 4.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed CW / Lot # of added preservative 12513-37-10, 12787-14-8
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 081814-3CAW		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A CW 9/25	16. All vials excluding trip blanks
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: MO

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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)	6017877
1	T1-016 BP3S(4.0) BP3N(6.0)	OT	G	5(DG9U)		9/24/14	930		14	10	4	1	0		P(AG3S)			X	X	X	X	X	X	X	X	X	X	X	BP3U		2(BP2U) 2(AG4U) 601 602 2(DG9U)
2	TRIP BLANK								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	FGI	9-24-14	12:00		9-24-14	11:58a				
SITE ADDRESS: BRIDGETON LF				PACE	9/25/14	0205	7.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 9/24/14				

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

October 03, 2014

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

RE: Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 26, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

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 T1-017
Pace Project No.: 60178866

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178866001	**T1-017**	Water	09/25/14 09:45	09/26/14 01:55
60178866002	**TRIP BLANK**	Water	09/25/14 09:45	09/26/14 01:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178866001	**T1-017**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178866002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Date: October 03, 2014

The sample volume received for volatile analysis for leachate sample T1-017 contained head space presence greater than 6mm. Per historical instructions, the analysis is completed and the presence noted.

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Sample: T1-017 **Lab ID: 60178866001** Collected: 09/25/14 09:45 Received: 09/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4870**	ug/L	375	1	09/30/14 16:30	10/02/14 16:06	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:06	7440-36-0	
Arsenic	**563**	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/30/14 16:30	10/02/14 16:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:06	7440-43-9	
Chromium	**126**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:06	7440-47-3	
Cobalt	ND	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:06	7440-48-4	
Copper	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:06	7440-50-8	
Iron	**416000**	ug/L	250	1	09/30/14 16:30	10/02/14 16:06	7439-89-6	M1
Lead	**76.8**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:06	7439-92-1	
Nickel	**71.6**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/30/14 16:30	10/02/14 16:06	7782-49-2	
Silver	ND	ug/L	35.0	1	09/30/14 16:30	10/02/14 16:06	7440-22-4	
Thallium	ND	ug/L	100	1	09/30/14 16:30	10/02/14 16:06	7440-28-0	
Zinc	**2730**	ug/L	250	1	09/30/14 16:30	10/02/14 16:06	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	09/29/14 18:05	09/30/14 15:17	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:17	7440-36-0	
Arsenic, Dissolved	**410**	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:17	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/29/14 18:05	09/30/14 15:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:17	7440-43-9	
Chromium, Dissolved	**78.2**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:17	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:17	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:17	7440-50-8	
Iron, Dissolved	**62500**	ug/L	250	1	09/29/14 18:05	09/30/14 15:17	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:17	7439-92-1	
Nickel, Dissolved	**55.9**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:17	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/29/14 18:05	09/30/14 15:17	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/29/14 18:05	09/30/14 15:17	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/29/14 18:05	09/30/14 15:17	7440-28-0	
Zinc, Dissolved	**510**	ug/L	250	1	09/29/14 18:05	09/30/14 15:17	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**13.3**	ug/L	6.0	1	10/02/14 11:34	10/02/14 16:15	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	10/01/14 11:40	10/01/14 16:06	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/29/14 00:00	09/30/14 12:26	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/29/14 00:00	09/30/14 12:26	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3360**	ug/L	2000	1	09/29/14 00:00	09/30/14 12:26		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Sample: T1-017 **Lab ID: 60178866001** Collected: 09/25/14 09:45 Received: 09/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	87-86-5	
Phenol	**5450**	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/29/14 00:00	09/30/14 12:26	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	115	%	33-120	1	09/29/14 00:00	09/30/14 12:26	4165-60-0	
2-Fluorobiphenyl (S)	85	%	39-120	1	09/29/14 00:00	09/30/14 12:26	321-60-8	
Terphenyl-d14 (S)	91	%	45-120	1	09/29/14 00:00	09/30/14 12:26	1718-51-0	
Phenol-d6 (S)	37	%	11-120	1	09/29/14 00:00	09/30/14 12:26	13127-88-3	
2-Fluorophenol (S)	51	%	17-120	1	09/29/14 00:00	09/30/14 12:26	367-12-4	
2,4,6-Tribromophenol (S)	104	%	39-120	1	09/29/14 00:00	09/30/14 12:26	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**68000**	ug/L	1000	100		09/29/14 14:34	67-64-1	N2
Benzene	ND	ug/L	100	100		09/29/14 14:34	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/29/14 14:34	75-27-4	
Bromoform	ND	ug/L	100	100		09/29/14 14:34	75-25-2	
Bromomethane	ND	ug/L	500	100		09/29/14 14:34	74-83-9	
2-Butanone (MEK)	**23900**	ug/L	1000	100		09/29/14 14:34	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/29/14 14:34	56-23-5	
Chloroethane	ND	ug/L	100	100		09/29/14 14:34	75-00-3	
Chloroform	ND	ug/L	100	100		09/29/14 14:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/29/14 14:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/29/14 14:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:34	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:34	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/29/14 14:34	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/29/14 14:34	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/29/14 14:34	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/29/14 14:34	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/29/14 14:34	127-18-4	
Toluene	ND	ug/L	100	100		09/29/14 14:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/29/14 14:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/29/14 14:34	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/29/14 14:34	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/29/14 14:34	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/29/14 14:34	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	100		09/29/14 14:34	460-00-4	HS
Toluene-d8 (S)	102	%	80-120	100		09/29/14 14:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	100		09/29/14 14:34	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/29/14 14:34		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**50.4**	mg/L	5.0	1		10/01/14 15:40		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Sample: T1-017 **Lab ID: 60178866001** Collected: 09/25/14 09:45 Received: 09/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/01/14 15:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2100**	mg/L	5.0	1		10/02/14 08:21		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		09/30/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**12800**	mg/L	2.0	1	09/26/14 12:04	10/01/14 17:55		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**196**	mg/L	5.0	50		09/27/14 11:25	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**23400**	mg/L	2500	250		10/03/14 12:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

Sample: TRIP BLANK **Lab ID: 60178866002** Collected: 09/25/14 09:45 Received: 09/26/14 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/29/14 13:37	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/29/14 13:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/29/14 13:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/29/14 13:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/29/14 13:37	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/29/14 13:37	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/29/14 13:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/29/14 13:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/29/14 13:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/29/14 13:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/29/14 13:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:37	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/29/14 13:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/29/14 13:37	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/29/14 13:37	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/29/14 13:37	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/29/14 13:37	127-18-4	
Toluene	ND	ug/L	1.0	1		09/29/14 13:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/29/14 13:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/29/14 13:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/29/14 13:37	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		09/29/14 13:37	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/29/14 13:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		09/29/14 13:37	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/29/14 13:37		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: MERP/8860
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178866001

METHOD BLANK: 1452468 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/02/14 16:00	

LABORATORY CONTROL SAMPLE: 1452469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452470 1452471

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	13.3	150	150	160	150	98	91	70-130	7	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: MERP/8856
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178866001

METHOD BLANK: 1451796 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/01/14 15:56	

LABORATORY CONTROL SAMPLE: 1451797

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: 1451798 1451799

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	132	131	88	87	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: MPRP/29113
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178866001

METHOD BLANK: 1451311
Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/02/14 16:02	
Antimony	ug/L	ND	10.0	10/02/14 16:02	
Arsenic	ug/L	ND	10.0	10/02/14 16:02	
Beryllium	ug/L	ND	1.0	10/02/14 16:02	
Cadmium	ug/L	ND	5.0	10/02/14 16:02	
Chromium	ug/L	ND	5.0	10/02/14 16:02	
Cobalt	ug/L	ND	5.0	10/02/14 16:02	
Copper	ug/L	ND	10.0	10/02/14 16:02	
Iron	ug/L	ND	50.0	10/02/14 16:02	
Lead	ug/L	ND	5.0	10/02/14 16:02	
Nickel	ug/L	ND	5.0	10/02/14 16:02	
Selenium	ug/L	ND	15.0	10/02/14 16:02	
Silver	ug/L	ND	7.0	10/02/14 16:02	
Thallium	ug/L	ND	20.0	10/02/14 16:02	
Zinc	ug/L	ND	50.0	10/02/14 16:02	

LABORATORY CONTROL SAMPLE: 1451312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	968	97	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	999	100	85-115	
Iron	ug/L	10000	9820	98	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	489	98	85-115	
Thallium	ug/L	1000	972	97	85-115	
Zinc	ug/L	1000	944	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1451313 1451314

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4870	50000	50000	60500	60000	111	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5540	5420	110	108	70-130	2	7	
Arsenic	ug/L	563	5000	5000	6010	5920	109	107	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5120	5100	102	102	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5240	5160	105	103	70-130	2	10	
Chromium	ug/L	126	5000	5000	4820	4790	94	93	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5120	5100	102	101	70-130	0	6	
Copper	ug/L	ND	5000	5000	5340	5300	107	106	70-130	1	11	
Iron	ug/L	416000	50000	50000	562000	562000	294	294	70-130	0	10	M1
Lead	ug/L	76.8	5000	5000	4910	4840	97	95	70-130	1	10	
Nickel	ug/L	71.6	5000	5000	5020	4940	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5600	5530	112	111	70-130	1	10	
Silver	ug/L	ND	2500	2500	2610	2580	104	103	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4460	4360	89	87	70-130	2	6	
Zinc	ug/L	2730	5000	5000	7820	7740	102	100	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: MPRP/29092
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178866001

METHOD BLANK: 1450900
Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/30/14 14:57	
Antimony, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Arsenic, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Beryllium, Dissolved	ug/L	ND	1.0	09/30/14 14:57	
Cadmium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Chromium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Cobalt, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Copper, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Iron, Dissolved	ug/L	ND	50.0	09/30/14 14:57	
Lead, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Nickel, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Selenium, Dissolved	ug/L	ND	15.0	09/30/14 14:57	
Silver, Dissolved	ug/L	ND	7.0	09/30/14 14:57	
Thallium, Dissolved	ug/L	ND	20.0	09/30/14 14:57	
Zinc, Dissolved	ug/L	ND	50.0	09/30/14 14:57	

LABORATORY CONTROL SAMPLE: 1450901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9690	97	85-115	
Antimony, Dissolved	ug/L	1000	993	99	85-115	
Arsenic, Dissolved	ug/L	1000	944	94	85-115	
Beryllium, Dissolved	ug/L	1000	984	98	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9830	98	85-115	
Lead, Dissolved	ug/L	1000	994	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	963	96	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	975	97	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 T1-017
Pace Project No.: 60178866

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1450902 1450903

Parameter	Units	60178964001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	50400	48800	100	97	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5180	5030	103	101	70-130	3	7	
Arsenic, Dissolved	ug/L	406	5000	5000	5490	5290	102	98	70-130	4	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4980	4860	100	97	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5030	4880	101	98	70-130	3	10	
Chromium, Dissolved	ug/L	81.0	5000	5000	5000	4820	98	95	70-130	4	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4920	4800	98	96	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5120	4940	102	99	70-130	3	11	
Iron, Dissolved	ug/L	47900	50000	50000	101000	93400	106	91	70-130	8	10	
Lead, Dissolved	ug/L	ND	5000	5000	4770	4650	95	93	70-130	3	10	
Nickel, Dissolved	ug/L	64.0	5000	5000	4900	4760	97	94	70-130	3	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5200	5020	104	100	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2540	2450	102	98	70-130	4	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4510	4420	90	88	70-130	2	6	
Zinc, Dissolved	ug/L	454	5000	5000	5220	5040	95	92	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: MSV/64707
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60178866001, 60178866002

METHOD BLANK: 1450736
Matrix: Water
Associated Lab Samples: 60178866001, 60178866002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/29/14 12:15	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,2-Dichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/29/14 12:15	
2-Butanone (MEK)	ug/L	ND	10.0	09/29/14 12:15	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/29/14 12:15	N2
Acetone	ug/L	ND	10.0	09/29/14 12:15	N2
Benzene	ug/L	ND	1.0	09/29/14 12:15	
Bromodichloromethane	ug/L	ND	1.0	09/29/14 12:15	
Bromoform	ug/L	ND	1.0	09/29/14 12:15	
Bromomethane	ug/L	ND	5.0	09/29/14 12:15	
Carbon tetrachloride	ug/L	ND	1.0	09/29/14 12:15	
Chloroethane	ug/L	ND	1.0	09/29/14 12:15	
Chloroform	ug/L	ND	1.0	09/29/14 12:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	N2
Ethylbenzene	ug/L	ND	1.0	09/29/14 12:15	
Methylene chloride	ug/L	ND	1.0	09/29/14 12:15	
Tetrachloroethene	ug/L	ND	1.0	09/29/14 12:15	
Toluene	ug/L	ND	1.0	09/29/14 12:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Trichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Vinyl chloride	ug/L	ND	1.0	09/29/14 12:15	
Xylene (Total)	ug/L	ND	3.0	09/29/14 12:15	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/29/14 12:15	
4-Bromofluorobenzene (S)	%	101	80-120	09/29/14 12:15	
Toluene-d8 (S)	%	100	80-120	09/29/14 12:15	

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	97	67-124	
1,2-Dichloroethane	ug/L	20	20.6	103	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	90.6	91	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.1	96	59-131	N2
Acetone	ug/L	100	91.4	91	38-134	N2
Benzene	ug/L	20	19.9	99	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.3	101	68-125	
Bromoform	ug/L	20	20.7	104	65-127	
Bromomethane	ug/L	20	19.8	99	13-157	
Carbon tetrachloride	ug/L	20	19.9	99	70-131	
Chloroethane	ug/L	20	19.5	97	47-133	
Chloroform	ug/L	20	20.1	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.8	99	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	66-129	
Trichloroethene	ug/L	20	19.6	98	71-123	
Vinyl chloride	ug/L	20	21.3	107	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3660	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3600	90	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3770	94	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3820	95	33-140	
2-Butanone (MEK)	ug/L	20400	20000	40300	99	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19800	98	40-160	N2
Acetone	ug/L	62700	20000	84300	108	10-160	N2
Benzene	ug/L	ND	4000	3900	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3920	98	35-142	
Bromoform	ug/L	ND	4000	3860	97	45-142	
Bromomethane	ug/L	ND	4000	3550	89	10-158	
Carbon tetrachloride	ug/L	ND	4000	4050	101	70-140	
Chloroethane	ug/L	ND	4000	3590	90	19-152	
Chloroform	ug/L	ND	4000	3760	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3810	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3950	99	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4000	100	64-148	
Toluene	ug/L	ND	4000	3910	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3720	93	54-151	
Trichloroethene	ug/L	ND	4000	3850	96	71-149	
Vinyl chloride	ug/L	ND	4000	4160	104	22-146	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11700	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: OEXT/46342
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178866001

METHOD BLANK: 1450596
Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/30/14 11:24	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/30/14 11:24	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/30/14 11:24	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/30/14 11:24	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/30/14 11:24	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/30/14 11:24	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/30/14 11:24	
Hexachloroethane	ug/L	ND	5.0	09/30/14 11:24	
Naphthalene	ug/L	ND	5.0	09/30/14 11:24	
Nitrobenzene	ug/L	ND	5.0	09/30/14 11:24	
Pentachlorophenol	ug/L	ND	5.0	09/30/14 11:24	
Phenol	ug/L	ND	5.0	09/30/14 11:24	
2,4,6-Tribromophenol (S)	%	82	39-120	09/30/14 11:24	
2-Fluorobiphenyl (S)	%	87	39-120	09/30/14 11:24	
2-Fluorophenol (S)	%	50	17-120	09/30/14 11:24	
Nitrobenzene-d5 (S)	%	81	33-120	09/30/14 11:24	
Phenol-d6 (S)	%	31	11-120	09/30/14 11:24	
Terphenyl-d14 (S)	%	94	45-120	09/30/14 11:24	

LABORATORY CONTROL SAMPLE: 1450597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.5	67	46-120	
2,4,6-Trichlorophenol	ug/L	50	37.4	75	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.0	60	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.5	57	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	41.8	84	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.6	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	33.9	34	24-120	
Hexachloroethane	ug/L	50	31.2	62	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	37.0	74	48-120	
Pentachlorophenol	ug/L	50	41.8	84	47-120	
Phenol	ug/L	50	14.5	29	16-112	
2,4,6-Tribromophenol (S)	%			81	39-120	
2-Fluorobiphenyl (S)	%			73	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			74	33-120	
Phenol-d6 (S)	%			27	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 T1-017
Pace Project No.: 60178866

MATRIX SPIKE SAMPLE: 1450598

Parameter	Units	60178866001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3610	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4330	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3710	74	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3360	5000	6410	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5110	102	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3470	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3960	40	11-120	
Hexachloroethane	ug/L	ND	5000	3370	67	40-113	
Naphthalene	ug/L	ND	5000	3850	77	45-120	
Nitrobenzene	ug/L	ND	5000	4820	96	38-120	
Pentachlorophenol	ug/L	ND	5000	5040	101	43-135	
Phenol	ug/L	5450	5000	6430	20	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				33	11-120	
Terphenyl-d14 (S)	%				91	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WET/50614 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178866001

METHOD BLANK: 1452117 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/01/14 15:39	

LABORATORY CONTROL SAMPLE: 1452118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	43.3	108	78-114	

MATRIX SPIKE SAMPLE: 1452120

Parameter	Units	60178102010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44.4	43.8	95	78-114	

SAMPLE DUPLICATE: 1452119

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WET/50615 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178866001

METHOD BLANK: 1452123 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/01/14 15:46	

LABORATORY CONTROL SAMPLE: 1452124

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

MATRIX SPIKE SAMPLE: 1452126

Parameter	Units	60178102010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	18.4	80	64-132	

SAMPLE DUPLICATE: 1452125

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WET/50623 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178866001

METHOD BLANK: 1452403 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/02/14 08:16	

SAMPLE DUPLICATE: 1452404

Parameter	Units	60178838001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	36.0	36.0	0	10	

SAMPLE DUPLICATE: 1452405

Parameter	Units	60178825002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WET/50573
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178866001

SAMPLE DUPLICATE: 1451043

Parameter	Units	60178781001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WET/50518 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178866001

METHOD BLANK: 1449609 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/01/14 16:51	

LABORATORY CONTROL SAMPLE: 1449610

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	194	98	85-115	

SAMPLE DUPLICATE: 1449611

Parameter	Units	60178763001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	8600	8350	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WETA/31145 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178866001

METHOD BLANK: 1450270 Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/27/14 10:52	

LABORATORY CONTROL SAMPLE: 1450271

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

MATRIX SPIKE SAMPLE: 1450272

Parameter	Units	60178269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	2	3.3	96	90-110	

MATRIX SPIKE SAMPLE: 1450273

Parameter	Units	60178346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1450274

Parameter	Units	60178347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	5.8	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

QC Batch: WETA/31190
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178866001

METHOD BLANK: 1452321
Matrix: Water
Associated Lab Samples: 60178866001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-017
Pace Project No.: 60178866

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.
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 T1-017
Pace Project No.: 60178866

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178866001	**T1-017**	EPA 200.7	MPRP/29113	EPA 200.7	ICP/21907
60178866001	**T1-017**	EPA 200.7	MPRP/29092	EPA 200.7	ICP/21897
60178866001	**T1-017**	EPA 245.1	MERP/8860	EPA 245.1	MERC/8816
60178866001	**T1-017**	EPA 245.1	MERP/8856	EPA 245.1	MERC/8811
60178866001	**T1-017**	EPA 625	OEXT/46342	EPA 625	MSSV/14898
60178866001	**T1-017**	EPA 624 Low	MSV/64707		
60178866002	**TRIP BLANK**	EPA 624 Low	MSV/64707		
60178866001	**T1-017**	EPA 1664A	WET/50614		
60178866001	**T1-017**	EPA 1664A	WET/50615		
60178866001	**T1-017**	SM 2540D	WET/50623		
60178866001	**T1-017**	SM 4500-H+B	WET/50573		
60178866001	**T1-017**	SM 5210B	WET/50518	SM 5210B	WET/50618
60178866001	**T1-017**	EPA 350.1	WETA/31145		
60178866001	**T1-017**	EPA 410.4	WETA/31190		

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Sample Condition Upon Receipt

WO#: 60178866

60178866

Client Name: Barr

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other ☐ Xroads 5

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

Optional
Proj Due Date:
Proj Name:

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

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

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

Cooler Temperature: 4.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: _____

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 6.0 added 1.0 mL of H_2SO_4 (IW 9/26) final = 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14. BP3N initial pH 6.0 added 2.5 mL HNO_3 final 4.0
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed CLN / Lot # of added preservative 12513-32-10, 12787-19-8
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 082514-3LAW		15. All vials excluding Trip Blanks
Headspace in VOA vials (>6mm):	☐Yes ☐No ☐N/A	
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: NC

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 9/27/16

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	6017 8866
1	T1-017 3(A633) 2(A640)	OT	G	BP3U		4/25/14	9:45		14	10	4	1	0	2(BP2U)				X	X	X	X	X	X	X	X	X	X	BP	35	5(DG9U) BP3N COL
2	TRIP BLANK								2	2																X				2(DG9U) COL
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		4-25-14	12:00PM	931	9-25	11:59				
SITE ADDRESS: BRIDGETON LF				PACE	9/26	0155	4.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 9/25/14				

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

October 06, 2014

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

RE: Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 27, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown
Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

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 T1-018
Pace Project No.: 60178964

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60178964001	**T1-018**	Water	09/26/14 10:00	09/27/14 01:40
60178964002	**TRIP BLANK**	Water	09/26/14 10:00	09/27/14 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60178964001	**T1-018**	EPA 200.7	TDS	15
		EPA 200.7	TDS	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	1
		EPA 625	JMT	18
		EPA 624 Low	EAK	28
		EPA 1664A	CRT	1
		EPA 1664A	CRT	1
		SM 2540D	MER	1
		SM 4500-H+B	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60178964002	**TRIP BLANK**	EPA 624 Low	EAK	28

REPORT OF LABORATORY ANALYSIS

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

PROJECT NARRATIVE

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Date: October 06, 2014

The sample volume received for volatile analysis for leachate sample T1-018 contained head space presence greater than 6mm. Per historical instructions, the analysis is completed and the presence noted.

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Sample: T1-018 **Lab ID: 60178964001** Collected: 09/26/14 10:00 Received: 09/27/14 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5140**	ug/L	375	1	09/30/14 16:30	10/02/14 16:13	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:13	7440-36-0	
Arsenic	**627**	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:13	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/30/14 16:30	10/02/14 16:13	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:13	7440-43-9	
Chromium	**160**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:13	7440-47-3	
Cobalt	**25.9**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:13	7440-48-4	
Copper	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:13	7440-50-8	
Iron	**490000**	ug/L	250	1	09/30/14 16:30	10/02/14 16:13	7439-89-6	
Lead	**93.6**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:13	7439-92-1	
Nickel	**86.0**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:13	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/30/14 16:30	10/02/14 16:13	7782-49-2	
Silver	ND	ug/L	35.0	1	09/30/14 16:30	10/02/14 16:13	7440-22-4	
Thallium	ND	ug/L	100	1	09/30/14 16:30	10/02/14 16:13	7440-28-0	
Zinc	**3180**	ug/L	250	1	09/30/14 16:30	10/02/14 16:13	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	09/29/14 18:05	09/30/14 15:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:24	7440-36-0	
Arsenic, Dissolved	**406**	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	09/29/14 18:05	09/30/14 15:24	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:24	7440-43-9	
Chromium, Dissolved	**81.0**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:24	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:24	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	09/29/14 18:05	09/30/14 15:24	7440-50-8	
Iron, Dissolved	**47900**	ug/L	250	1	09/29/14 18:05	09/30/14 15:24	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:24	7439-92-1	
Nickel, Dissolved	**64.0**	ug/L	25.0	1	09/29/14 18:05	09/30/14 15:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	09/29/14 18:05	09/30/14 15:24	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	09/29/14 18:05	09/30/14 15:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	09/29/14 18:05	09/30/14 15:24	7440-28-0	
Zinc, Dissolved	**454**	ug/L	250	1	09/29/14 18:05	09/30/14 15:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**15.2**	ug/L	6.0	1	10/02/14 11:34	10/02/14 16:20	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	10/01/14 11:40	10/01/14 16:08	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	09/29/14 00:00	09/30/14 19:00	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	77-47-4	
Hexachloroethane	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	09/29/14 00:00	09/30/14 19:00	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3270**	ug/L	2000	1	09/29/14 00:00	09/30/14 19:00		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Sample: T1-018 **Lab ID: 60178964001** Collected: 09/26/14 10:00 Received: 09/27/14 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Naphthalene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	91-20-3	
Nitrobenzene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	87-86-5	
Phenol	**4780**	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	09/29/14 00:00	09/30/14 19:00	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	114	%	33-120	1	09/29/14 00:00	09/30/14 19:00	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	1	09/29/14 00:00	09/30/14 19:00	321-60-8	
Terphenyl-d14 (S)	93	%	45-120	1	09/29/14 00:00	09/30/14 19:00	1718-51-0	
Phenol-d6 (S)	31	%	11-120	1	09/29/14 00:00	09/30/14 19:00	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	1	09/29/14 00:00	09/30/14 19:00	367-12-4	
2,4,6-Tribromophenol (S)	96	%	39-120	1	09/29/14 00:00	09/30/14 19:00	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**64500**	ug/L	1000	100		09/29/14 14:48	67-64-1	N2
Benzene	ND	ug/L	100	100		09/29/14 14:48	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		09/29/14 14:48	75-27-4	
Bromoform	ND	ug/L	100	100		09/29/14 14:48	75-25-2	
Bromomethane	ND	ug/L	500	100		09/29/14 14:48	74-83-9	
2-Butanone (MEK)	**22500**	ug/L	1000	100		09/29/14 14:48	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		09/29/14 14:48	56-23-5	
Chloroethane	ND	ug/L	100	100		09/29/14 14:48	75-00-3	
Chloroform	ND	ug/L	100	100		09/29/14 14:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		09/29/14 14:48	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		09/29/14 14:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:48	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		09/29/14 14:48	156-60-5	
Ethylbenzene	ND	ug/L	100	100		09/29/14 14:48	100-41-4	
Methylene chloride	ND	ug/L	100	100		09/29/14 14:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		09/29/14 14:48	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		09/29/14 14:48	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		09/29/14 14:48	127-18-4	
Toluene	ND	ug/L	100	100		09/29/14 14:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		09/29/14 14:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		09/29/14 14:48	79-00-5	
Trichloroethene	ND	ug/L	100	100		09/29/14 14:48	79-01-6	
Vinyl chloride	ND	ug/L	100	100		09/29/14 14:48	75-01-4	
Xylene (Total)	ND	ug/L	300	100		09/29/14 14:48	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	100		09/29/14 14:48	460-00-4	HS
Toluene-d8 (S)	101	%	80-120	100		09/29/14 14:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	100		09/29/14 14:48	17060-07-0	
Preservation pH	**6.0**		1.0	100		09/29/14 14:48		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**205**	mg/L	5.0	1		10/01/14 15:41		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Sample: T1-018 **Lab ID: 60178964001** Collected: 09/26/14 10:00 Received: 09/27/14 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.0**	mg/L	5.0	1		10/01/14 15:47		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1620**	mg/L	5.0	1		10/02/14 15:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.1**	Std. Units	0.10	1		09/30/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**12300**	mg/L	2.0	1	09/27/14 11:54	10/02/14 12:17		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**195**	mg/L	5.0	50		09/27/14 11:26	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**22400**	mg/L	2500	250		10/03/14 12:38		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Sample: TRIP BLANK **Lab ID: 60178964002** Collected: 09/26/14 10:00 Received: 09/27/14 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	ND	ug/L	10.0	1		09/29/14 13:52	67-64-1	N2
Benzene	ND	ug/L	1.0	1		09/29/14 13:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/29/14 13:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/29/14 13:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/29/14 13:52	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		09/29/14 13:52	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		09/29/14 13:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/29/14 13:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		09/29/14 13:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/29/14 13:52	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/29/14 13:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:52	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/29/14 13:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/29/14 13:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/29/14 13:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		09/29/14 13:52	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/29/14 13:52	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		09/29/14 13:52	127-18-4	
Toluene	ND	ug/L	1.0	1		09/29/14 13:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/29/14 13:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/29/14 13:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/29/14 13:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/29/14 13:52	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		09/29/14 13:52	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/29/14 13:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		09/29/14 13:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/29/14 13:52		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: MERP/8860
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60178964001

METHOD BLANK: 1452468 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/02/14 16:00	

LABORATORY CONTROL SAMPLE: 1452469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452470 1452471

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	13.3	150	150	160	150	98	91	70-130	7	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: MERP/8856
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60178964001

METHOD BLANK: 1451796 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/01/14 15:56	

LABORATORY CONTROL SAMPLE: 1451797

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: 1451798 1451799

Parameter	Units	60178644001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	150	150	132	131	88	87	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: MPRP/29113
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60178964001

METHOD BLANK: 1451311
Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/02/14 16:02	
Antimony	ug/L	ND	10.0	10/02/14 16:02	
Arsenic	ug/L	ND	10.0	10/02/14 16:02	
Beryllium	ug/L	ND	1.0	10/02/14 16:02	
Cadmium	ug/L	ND	5.0	10/02/14 16:02	
Chromium	ug/L	ND	5.0	10/02/14 16:02	
Cobalt	ug/L	ND	5.0	10/02/14 16:02	
Copper	ug/L	ND	10.0	10/02/14 16:02	
Iron	ug/L	ND	50.0	10/02/14 16:02	
Lead	ug/L	ND	5.0	10/02/14 16:02	
Nickel	ug/L	ND	5.0	10/02/14 16:02	
Selenium	ug/L	ND	15.0	10/02/14 16:02	
Silver	ug/L	ND	7.0	10/02/14 16:02	
Thallium	ug/L	ND	20.0	10/02/14 16:02	
Zinc	ug/L	ND	50.0	10/02/14 16:02	

LABORATORY CONTROL SAMPLE: 1451312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	968	97	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	999	100	85-115	
Iron	ug/L	10000	9820	98	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	489	98	85-115	
Thallium	ug/L	1000	972	97	85-115	
Zinc	ug/L	1000	944	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1451313 1451314

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4870	50000	50000	60500	60000	111	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5540	5420	110	108	70-130	2	7	
Arsenic	ug/L	563	5000	5000	6010	5920	109	107	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5120	5100	102	102	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5240	5160	105	103	70-130	2	10	
Chromium	ug/L	126	5000	5000	4820	4790	94	93	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5120	5100	102	101	70-130	0	6	
Copper	ug/L	ND	5000	5000	5340	5300	107	106	70-130	1	11	
Iron	ug/L	416000	50000	50000	562000	562000	294	294	70-130	0	10	M1
Lead	ug/L	76.8	5000	5000	4910	4840	97	95	70-130	1	10	
Nickel	ug/L	71.6	5000	5000	5020	4940	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5600	5530	112	111	70-130	1	10	
Silver	ug/L	ND	2500	2500	2610	2580	104	103	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4460	4360	89	87	70-130	2	6	
Zinc	ug/L	2730	5000	5000	7820	7740	102	100	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: MPRP/29092
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60178964001

METHOD BLANK: 1450900
Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/30/14 14:57	
Antimony, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Arsenic, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Beryllium, Dissolved	ug/L	ND	1.0	09/30/14 14:57	
Cadmium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Chromium, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Cobalt, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Copper, Dissolved	ug/L	ND	10.0	09/30/14 14:57	
Iron, Dissolved	ug/L	ND	50.0	09/30/14 14:57	
Lead, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Nickel, Dissolved	ug/L	ND	5.0	09/30/14 14:57	
Selenium, Dissolved	ug/L	ND	15.0	09/30/14 14:57	
Silver, Dissolved	ug/L	ND	7.0	09/30/14 14:57	
Thallium, Dissolved	ug/L	ND	20.0	09/30/14 14:57	
Zinc, Dissolved	ug/L	ND	50.0	09/30/14 14:57	

LABORATORY CONTROL SAMPLE: 1450901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9690	97	85-115	
Antimony, Dissolved	ug/L	1000	993	99	85-115	
Arsenic, Dissolved	ug/L	1000	944	94	85-115	
Beryllium, Dissolved	ug/L	1000	984	98	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	968	97	85-115	
Iron, Dissolved	ug/L	10000	9830	98	85-115	
Lead, Dissolved	ug/L	1000	994	99	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	963	96	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	975	97	85-115	
Zinc, Dissolved	ug/L	1000	980	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1450902 1450903

Parameter	Units	60178964001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	50400	48800	100	97	70-130	3	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5180	5030	103	101	70-130	3	7	
Arsenic, Dissolved	ug/L	406	5000	5000	5490	5290	102	98	70-130	4	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4980	4860	100	97	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5030	4880	101	98	70-130	3	10	
Chromium, Dissolved	ug/L	81.0	5000	5000	5000	4820	98	95	70-130	4	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	4920	4800	98	96	70-130	3	6	
Copper, Dissolved	ug/L	ND	5000	5000	5120	4940	102	99	70-130	3	11	
Iron, Dissolved	ug/L	47900	50000	50000	101000	93400	106	91	70-130	8	10	
Lead, Dissolved	ug/L	ND	5000	5000	4770	4650	95	93	70-130	3	10	
Nickel, Dissolved	ug/L	64.0	5000	5000	4900	4760	97	94	70-130	3	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5200	5020	104	100	70-130	3	10	
Silver, Dissolved	ug/L	ND	2500	2500	2540	2450	102	98	70-130	4	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4510	4420	90	88	70-130	2	6	
Zinc, Dissolved	ug/L	454	5000	5000	5220	5040	95	92	70-130	3	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: MSV/64707 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60178964001, 60178964002

METHOD BLANK: 1450736 Matrix: Water
Associated Lab Samples: 60178964001, 60178964002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/29/14 12:15	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,2-Dichloroethane	ug/L	ND	1.0	09/29/14 12:15	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/29/14 12:15	
2-Butanone (MEK)	ug/L	ND	10.0	09/29/14 12:15	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/29/14 12:15	N2
Acetone	ug/L	ND	10.0	09/29/14 12:15	N2
Benzene	ug/L	ND	1.0	09/29/14 12:15	
Bromodichloromethane	ug/L	ND	1.0	09/29/14 12:15	
Bromoform	ug/L	ND	1.0	09/29/14 12:15	
Bromomethane	ug/L	ND	5.0	09/29/14 12:15	
Carbon tetrachloride	ug/L	ND	1.0	09/29/14 12:15	
Chloroethane	ug/L	ND	1.0	09/29/14 12:15	
Chloroform	ug/L	ND	1.0	09/29/14 12:15	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	N2
Ethylbenzene	ug/L	ND	1.0	09/29/14 12:15	
Methylene chloride	ug/L	ND	1.0	09/29/14 12:15	
Tetrachloroethene	ug/L	ND	1.0	09/29/14 12:15	
Toluene	ug/L	ND	1.0	09/29/14 12:15	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Trichloroethene	ug/L	ND	1.0	09/29/14 12:15	
Vinyl chloride	ug/L	ND	1.0	09/29/14 12:15	
Xylene (Total)	ug/L	ND	3.0	09/29/14 12:15	N2
1,2-Dichloroethane-d4 (S)	%	102	80-120	09/29/14 12:15	
4-Bromofluorobenzene (S)	%	101	80-120	09/29/14 12:15	
Toluene-d8 (S)	%	100	80-120	09/29/14 12:15	

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.7	103	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.5	98	67-127	N2
1,1,2-Trichloroethane	ug/L	20	19.5	97	67-124	
1,2-Dichloroethane	ug/L	20	20.6	103	70-126	
1,4-Dichlorobenzene	ug/L	20	19.1	96	74-120	
2-Butanone (MEK)	ug/L	100	90.6	91	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.1	96	59-131	N2
Acetone	ug/L	100	91.4	91	38-134	N2
Benzene	ug/L	20	19.9	99	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

LABORATORY CONTROL SAMPLE: 1450737

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.3	101	68-125	
Bromoform	ug/L	20	20.7	104	65-127	
Bromomethane	ug/L	20	19.8	99	13-157	
Carbon tetrachloride	ug/L	20	19.9	99	70-131	
Chloroethane	ug/L	20	19.5	97	47-133	
Chloroform	ug/L	20	20.1	101	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	19.8	99	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.8	99	73-125	
Toluene	ug/L	20	18.8	94	69-126	
trans-1,2-Dichloroethene	ug/L	20	19.6	98	66-129	
Trichloroethene	ug/L	20	19.6	98	71-123	
Vinyl chloride	ug/L	20	21.3	107	43-129	
Xylene (Total)	ug/L	60	58.3	97	75-121	N2
1,2-Dichloroethane-d4 (S)	%			104	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3660	91	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	4000	3600	90	52-143	
1,2-Dichloroethane	ug/L	ND	4000	3770	94	49-144	
1,4-Dichlorobenzene	ug/L	ND	4000	3820	95	33-140	
2-Butanone (MEK)	ug/L	20400	20000	40300	99	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20000	19800	98	40-160	N2
Acetone	ug/L	62700	20000	84300	108	10-160	N2
Benzene	ug/L	ND	4000	3900	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3920	98	35-142	
Bromoform	ug/L	ND	4000	3860	97	45-142	
Bromomethane	ug/L	ND	4000	3550	89	10-158	
Carbon tetrachloride	ug/L	ND	4000	4050	101	70-140	
Chloroethane	ug/L	ND	4000	3590	90	19-152	
Chloroform	ug/L	ND	4000	3760	94	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3810	95	34-147	N2
Ethylbenzene	ug/L	ND	4000	3950	99	40-142	
Methylene chloride	ug/L	ND	4000	3490	85	31-144	
Tetrachloroethene	ug/L	ND	4000	4000	100	64-148	
Toluene	ug/L	ND	4000	3910	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3720	93	54-151	
Trichloroethene	ug/L	ND	4000	3850	96	71-149	
Vinyl chloride	ug/L	ND	4000	4160	104	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

MATRIX SPIKE SAMPLE: 1450738

Parameter	Units	60178644001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	12000	11700	98	37-144	N2
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: OEXT/46342
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60178964001

METHOD BLANK: 1450596
Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/30/14 11:24	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/30/14 11:24	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	09/30/14 11:24	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	09/30/14 11:24	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/30/14 11:24	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/30/14 11:24	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/30/14 11:24	
Hexachloroethane	ug/L	ND	5.0	09/30/14 11:24	
Naphthalene	ug/L	ND	5.0	09/30/14 11:24	
Nitrobenzene	ug/L	ND	5.0	09/30/14 11:24	
Pentachlorophenol	ug/L	ND	5.0	09/30/14 11:24	
Phenol	ug/L	ND	5.0	09/30/14 11:24	
2,4,6-Tribromophenol (S)	%	82	39-120	09/30/14 11:24	
2-Fluorobiphenyl (S)	%	87	39-120	09/30/14 11:24	
2-Fluorophenol (S)	%	50	17-120	09/30/14 11:24	
Nitrobenzene-d5 (S)	%	81	33-120	09/30/14 11:24	
Phenol-d6 (S)	%	31	11-120	09/30/14 11:24	
Terphenyl-d14 (S)	%	94	45-120	09/30/14 11:24	

LABORATORY CONTROL SAMPLE: 1450597

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.5	67	46-120	
2,4,6-Trichlorophenol	ug/L	50	37.4	75	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	30.0	60	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	28.5	57	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	41.8	84	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.6	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	33.9	34	24-120	
Hexachloroethane	ug/L	50	31.2	62	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	37.0	74	48-120	
Pentachlorophenol	ug/L	50	41.8	84	47-120	
Phenol	ug/L	50	14.5	29	16-112	
2,4,6-Tribromophenol (S)	%			81	39-120	
2-Fluorobiphenyl (S)	%			73	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			74	33-120	
Phenol-d6 (S)	%			27	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 T1-018
Pace Project No.: 60178964

MATRIX SPIKE SAMPLE: 1450598

Parameter	Units	60178866001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3610	72	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4330	87	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	5000	3710	74	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	3360	5000	6410	61	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5110	102	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3470	69	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	3960	40	11-120	
Hexachloroethane	ug/L	ND	5000	3370	67	40-113	
Naphthalene	ug/L	ND	5000	3850	77	45-120	
Nitrobenzene	ug/L	ND	5000	4820	96	38-120	
Pentachlorophenol	ug/L	ND	5000	5040	101	43-135	
Phenol	ug/L	5450	5000	6430	20	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				73	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				102	33-120	
Phenol-d6 (S)	%				33	11-120	
Terphenyl-d14 (S)	%				91	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 T1-018
Pace Project No.: 60178964

QC Batch: WET/50614 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60178964001

METHOD BLANK: 1452117 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/01/14 15:39	

LABORATORY CONTROL SAMPLE: 1452118

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	43.3	108	78-114	

MATRIX SPIKE SAMPLE: 1452120

Parameter	Units	60178102010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44.4	43.8	95	78-114	

SAMPLE DUPLICATE: 1452119

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.8J		18	

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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 T1-018
Pace Project No.: 60178964

QC Batch: WET/50615 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60178964001

METHOD BLANK: 1452123 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/01/14 15:46	

LABORATORY CONTROL SAMPLE: 1452124

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

MATRIX SPIKE SAMPLE: 1452126

Parameter	Units	60178102010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.2	18.4	80	64-132	

SAMPLE DUPLICATE: 1452125

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	ND		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: WET/50625
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60178964001

METHOD BLANK: 1452417
Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/02/14 15:51	

SAMPLE DUPLICATE: 1452418

Parameter	Units	60178894001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1452419

Parameter	Units	60179080001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	10	26	10	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: WET/50573
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60178964001

SAMPLE DUPLICATE: 1451043

Parameter	Units	60178781001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: WET/50531 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60178964001

METHOD BLANK: 1450399 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/02/14 12:03	

LABORATORY CONTROL SAMPLE: 1450400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	187	95	85-115	

SAMPLE DUPLICATE: 1450401

Parameter	Units	60178904002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1520	1600	5	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: WETA/31145 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60178964001

METHOD BLANK: 1450270 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/27/14 10:52	

LABORATORY CONTROL SAMPLE: 1450271

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

MATRIX SPIKE SAMPLE: 1450272

Parameter	Units	60178269002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.4	2	3.3	96	90-110	

MATRIX SPIKE SAMPLE: 1450273

Parameter	Units	60178346002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	96	90-110	

SAMPLE DUPLICATE: 1450274

Parameter	Units	60178347001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	6.0	5.8	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

QC Batch: WETA/31190
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60178964001

METHOD BLANK: 1452321 Matrix: Water
Associated Lab Samples: 60178964001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

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.

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-018
Pace Project No.: 60178964

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60178964001	**T1-018**	EPA 200.7	MPRP/29113	EPA 200.7	ICP/21907
60178964001	**T1-018**	EPA 200.7	MPRP/29092	EPA 200.7	ICP/21897
60178964001	**T1-018**	EPA 245.1	MERP/8860	EPA 245.1	MERC/8816
60178964001	**T1-018**	EPA 245.1	MERP/8856	EPA 245.1	MERC/8811
60178964001	**T1-018**	EPA 625	OEXT/46342	EPA 625	MSSV/14898
60178964001	**T1-018**	EPA 624 Low	MSV/64707		
60178964002	**TRIP BLANK**	EPA 624 Low	MSV/64707		
60178964001	**T1-018**	EPA 1664A	WET/50614		
60178964001	**T1-018**	EPA 1664A	WET/50615		
60178964001	**T1-018**	SM 2540D	WET/50625		
60178964001	**T1-018**	SM 4500-H+B	WET/50573		
60178964001	**T1-018**	SM 5210B	WET/50531	SM 5210B	WET/50634
60178964001	**T1-018**	EPA 350.1	WETA/31145		
60178964001	**T1-018**	EPA 410.4	WETA/31190		

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Sample Condition Upon Receipt

WO# : 60178964

60178964

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: 5.6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JSA 9/29/14

Chain of Custody present:	☑Yes	☐No	☐N/A
Chain of Custody filled out:	☑Yes	☐No	☐N/A
Chain of Custody relinquished:	☑Yes	☐No	☐N/A
Sampler name & signature on COC:	☑Yes	☐No	☐N/A
Samples arrived within holding time:	☑Yes	☐No	☐N/A
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A
Sufficient volume:	☑Yes	☐No	☐N/A
Correct containers used:	☑Yes	☐No	☐N/A
Pace containers used:	☑Yes	☐No	☐N/A
Containers intact:	☑Yes	☐No	☐N/A
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A
Filtered volume received for dissolved tests?	☐Yes	☑No	☐N/A
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No	
Trip Blank present: Pace Trip Blank lot # (if purchased): Sep 18 2014	☑Yes	☐No	☐N/A
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A
Project sampled in USDA Regulated Area:	☐Yes	☑No	☐N/A

1.
2.
3.
4.
5.
6. BOD pH
7.
8.
9.
10.
11.
12.
13.
14. HNO3 initial pH ~6.0 added 2.5 ml final pH ~2.0
H2SO4 initial pH ~6.0 added 2 ml final pH ~2.0

Initial when completed: Jm | Lot # of added preservative: 12787-19-8, 12513-37-10

15.
16. 5 of 5 sample vials ; 1 of 2 TB - COMMENT
17. List State: MO

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

Person Contacted: Bill Date/Time:

Comments/ Resolution: SAMPLE ID IS TT-01B

Project Manager Review: _____ Date: 9/29/14

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical

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)	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)	6017864 / 2(BP2U) (BP3U) (BP3S) (BP3N) 2(AG4U) 3(AG3S)
1	T1-017 18	OT	G			9/26/14	1020		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X		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	[signature]	9-26	1145	AMJ0041	9/26/14	1145				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	9/27/14	0140	5.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 9/26/14

T1-018
per Bill
9/30/14 [initials]

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

October 06, 2014

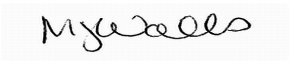
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures

cc: Bill Abernathy, Feezor Engineering
Kelly Caddy, Barr Engineering
DAN FEEZOR, FEEZOR ENGINEERING
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CERTIFICATIONS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

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 T1-020
Pace Project No.: 60179026

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179026001	**T1-020**	Water	09/28/14 10:30	09/29/14 13:15
60179026002	**TRIP BLANK**	Water	09/28/14 10:30	09/29/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60179026001	**T1-020**	EPA 200.7	TDS	15
		EPA 200.7	NDJ	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60179026002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Sample: T1-020 **Lab ID: 60179026001** Collected: 09/28/14 10:30 Received: 09/29/14 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	**4340**	ug/L	375	1	09/30/14 16:30	10/02/14 16:15	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:15	7440-36-0	
Arsenic	**484**	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:15	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/30/14 16:30	10/02/14 16:15	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:15	7440-43-9	
Chromium	**143**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:15	7440-47-3	
Cobalt	**26.0**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:15	7440-48-4	
Copper	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:15	7440-50-8	
Iron	**404000**	ug/L	250	1	09/30/14 16:30	10/02/14 16:15	7439-89-6	
Lead	**72.3**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:15	7439-92-1	
Nickel	**79.6**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:15	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/30/14 16:30	10/02/14 16:15	7782-49-2	
Silver	ND	ug/L	35.0	1	09/30/14 16:30	10/02/14 16:15	7440-22-4	
Thallium	ND	ug/L	100	1	09/30/14 16:30	10/02/14 16:15	7440-28-0	
Zinc	**2480**	ug/L	250	1	09/30/14 16:30	10/02/14 16:15	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	10/02/14 11:20	10/03/14 16:05	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:05	7440-36-0	
Arsenic, Dissolved	**322**	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:05	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	10/02/14 11:20	10/03/14 16:05	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:05	7440-43-9	
Chromium, Dissolved	**77.0**	ug/L	25.0	1	10/02/14 11:20	10/04/14 11:10	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:05	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:05	7440-50-8	
Iron, Dissolved	**38900**	ug/L	250	1	10/02/14 11:20	10/03/14 16:05	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:05	7439-92-1	
Nickel, Dissolved	**59.0**	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:05	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	10/02/14 11:20	10/03/14 16:05	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	10/02/14 11:20	10/03/14 16:05	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	10/02/14 11:20	10/03/14 16:05	7440-28-0	
Zinc, Dissolved	**290**	ug/L	250	1	10/02/14 11:20	10/03/14 16:05	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**9.4**	ug/L	6.0	1	10/02/14 11:34	10/02/14 16:21	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	10/02/14 11:34	10/02/14 15:49	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	10/01/14 00:00	10/02/14 09:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	77-47-4	
Hexachloroethane	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	10/01/14 00:00	10/02/14 09:40	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3400**	ug/L	2000	1	10/01/14 00:00	10/02/14 09:40		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Sample: T1-020 **Lab ID: 60179026001** Collected: 09/28/14 10:30 Received: 09/29/14 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	500	1	10/01/14 00:00	10/02/14 09:40	91-20-3	
Nitrobenzene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	87-86-5	
Phenol	**5310**	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	10/01/14 00:00	10/02/14 09:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	89	%	33-120	1	10/01/14 00:00	10/02/14 09:40	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	1	10/01/14 00:00	10/02/14 09:40	321-60-8	
Terphenyl-d14 (S)	87	%	45-120	1	10/01/14 00:00	10/02/14 09:40	1718-51-0	
Phenol-d6 (S)	37	%	11-120	1	10/01/14 00:00	10/02/14 09:40	13127-88-3	
2-Fluorophenol (S)	54	%	17-120	1	10/01/14 00:00	10/02/14 09:40	367-12-4	
2,4,6-Tribromophenol (S)	94	%	39-120	1	10/01/14 00:00	10/02/14 09:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**42200**	ug/L	1000	100		10/02/14 21:07	67-64-1	N2
Benzene	ND	ug/L	100	100		10/02/14 21:07	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		10/02/14 21:07	75-27-4	
Bromoform	ND	ug/L	100	100		10/02/14 21:07	75-25-2	
Bromomethane	ND	ug/L	500	100		10/02/14 21:07	74-83-9	
2-Butanone (MEK)	**12400**	ug/L	1000	100		10/02/14 21:07	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		10/02/14 21:07	56-23-5	
Chloroethane	ND	ug/L	100	100		10/02/14 21:07	75-00-3	
Chloroform	ND	ug/L	100	100		10/02/14 21:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		10/02/14 21:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		10/02/14 21:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:07	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:07	156-60-5	
Ethylbenzene	ND	ug/L	100	100		10/02/14 21:07	100-41-4	
Methylene chloride	ND	ug/L	100	100		10/02/14 21:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		10/02/14 21:07	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		10/02/14 21:07	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		10/02/14 21:07	127-18-4	
Toluene	ND	ug/L	100	100		10/02/14 21:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		10/02/14 21:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		10/02/14 21:07	79-00-5	
Trichloroethene	ND	ug/L	100	100		10/02/14 21:07	79-01-6	
Vinyl chloride	ND	ug/L	100	100		10/02/14 21:07	75-01-4	
Xylene (Total)	ND	ug/L	300	100		10/02/14 21:07	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	108	%	80-120	100		10/02/14 21:07	460-00-4	HS
Toluene-d8 (S)	100	%	80-120	100		10/02/14 21:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	100		10/02/14 21:07	17060-07-0	
Preservation pH	**6.0**		1.0	100		10/02/14 21:07		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**110**	mg/L	5.0	1		10/02/14 15:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Sample: T1-020 **Lab ID: 60179026001** Collected: 09/28/14 10:30 Received: 09/29/14 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	ND	mg/L	5.0	1		10/02/14 15:38		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4280**	mg/L	5.0	1		10/03/14 08:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.3**	Std. Units	0.10	1		09/30/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**7810**	mg/L	2.0	1	09/29/14 16:23	10/04/14 13:28		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**185**	mg/L	5.0	50		09/30/14 16:28	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**20000**	mg/L	2500	250		10/03/14 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

Sample: TRIP BLANK **Lab ID: 60179026002** Collected: 09/28/14 10:30 Received: 09/29/14 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		10/02/14 19:56	67-64-1	N2
Benzene	ND	ug/L	1.0	1		10/02/14 19:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 19:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/02/14 19:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/02/14 19:56	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		10/02/14 19:56	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 19:56	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/02/14 19:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/02/14 19:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 19:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 19:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 19:56	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 19:56	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 19:56	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/02/14 19:56	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 19:56	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 19:56	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 19:56	127-18-4	
Toluene	ND	ug/L	1.0	1		10/02/14 19:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 19:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 19:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/02/14 19:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/02/14 19:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/02/14 19:56	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	1		10/02/14 19:56	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		10/02/14 19:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		10/02/14 19:56	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/02/14 19:56		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: MERP/8860
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60179026001

METHOD BLANK: 1452468 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/02/14 16:00	

LABORATORY CONTROL SAMPLE: 1452469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452470 1452471

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	13.3	150	150	160	150	98	91	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: MERP/8859
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60179026001

METHOD BLANK: 1452452 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/02/14 15:46	

LABORATORY CONTROL SAMPLE: 1452453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452454 1452455

Parameter	Units	60179027001 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	134	133	89	88	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: MPRP/29113
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60179026001

METHOD BLANK: 1451311
Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/02/14 16:02	
Antimony	ug/L	ND	10.0	10/02/14 16:02	
Arsenic	ug/L	ND	10.0	10/02/14 16:02	
Beryllium	ug/L	ND	1.0	10/02/14 16:02	
Cadmium	ug/L	ND	5.0	10/02/14 16:02	
Chromium	ug/L	ND	5.0	10/02/14 16:02	
Cobalt	ug/L	ND	5.0	10/02/14 16:02	
Copper	ug/L	ND	10.0	10/02/14 16:02	
Iron	ug/L	ND	50.0	10/02/14 16:02	
Lead	ug/L	ND	5.0	10/02/14 16:02	
Nickel	ug/L	ND	5.0	10/02/14 16:02	
Selenium	ug/L	ND	15.0	10/02/14 16:02	
Silver	ug/L	ND	7.0	10/02/14 16:02	
Thallium	ug/L	ND	20.0	10/02/14 16:02	
Zinc	ug/L	ND	50.0	10/02/14 16:02	

LABORATORY CONTROL SAMPLE: 1451312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	968	97	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	999	100	85-115	
Iron	ug/L	10000	9820	98	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	489	98	85-115	
Thallium	ug/L	1000	972	97	85-115	
Zinc	ug/L	1000	944	94	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1451313 1451314

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4870	50000	50000	60500	60000	111	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5540	5420	110	108	70-130	2	7	
Arsenic	ug/L	563	5000	5000	6010	5920	109	107	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5120	5100	102	102	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5240	5160	105	103	70-130	2	10	
Chromium	ug/L	126	5000	5000	4820	4790	94	93	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5120	5100	102	101	70-130	0	6	
Copper	ug/L	ND	5000	5000	5340	5300	107	106	70-130	1	11	
Iron	ug/L	416000	50000	50000	562000	562000	294	294	70-130	0	10	M1
Lead	ug/L	76.8	5000	5000	4910	4840	97	95	70-130	1	10	
Nickel	ug/L	71.6	5000	5000	5020	4940	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5600	5530	112	111	70-130	1	10	
Silver	ug/L	ND	2500	2500	2610	2580	104	103	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4460	4360	89	87	70-130	2	6	
Zinc	ug/L	2730	5000	5000	7820	7740	102	100	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: MPRP/29144
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60179026001

METHOD BLANK: 1452456
Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/03/14 16:02	
Antimony, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Arsenic, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Beryllium, Dissolved	ug/L	ND	1.0	10/03/14 16:02	
Cadmium, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Chromium, Dissolved	ug/L	ND	5.0	10/04/14 11:07	
Cobalt, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Copper, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Iron, Dissolved	ug/L	ND	50.0	10/03/14 16:02	
Lead, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Nickel, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Selenium, Dissolved	ug/L	ND	15.0	10/03/14 16:02	
Silver, Dissolved	ug/L	ND	7.0	10/03/14 16:02	
Thallium, Dissolved	ug/L	ND	20.0	10/03/14 16:02	
Zinc, Dissolved	ug/L	ND	50.0	10/03/14 16:02	

LABORATORY CONTROL SAMPLE: 1452457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	965	96	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	996	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	989	99	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	988	99	85-115	
Silver, Dissolved	ug/L	500	485	97	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452458 1452459

Parameter	Units	60179026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	53400	53900	106	107	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5320	5380	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	322	5000	5000	5550	5660	105	107	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5170	5220	103	104	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5290	5360	106	107	70-130	1	10	
Chromium, Dissolved	ug/L	77.0	5000	5000	5270	5290	104	104	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5120	5180	102	103	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5350	105	107	70-130	2	11	
Iron, Dissolved	ug/L	38900	50000	50000	91200	92100	105	106	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4980	5020	99	100	70-130	1	10	
Nickel, Dissolved	ug/L	59.0	5000	5000	5160	5220	102	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5460	5520	109	110	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2700	106	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4710	4770	94	95	70-130	1	6	
Zinc, Dissolved	ug/L	290	5000	5000	5420	5460	103	103	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: MSV/64799 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60179026001, 60179026002

METHOD BLANK: 1452781 Matrix: Water
Associated Lab Samples: 60179026001, 60179026002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/02/14 19:28	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,2-Dichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/02/14 19:28	
2-Butanone (MEK)	ug/L	ND	10.0	10/02/14 19:28	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/02/14 19:28	N2
Acetone	ug/L	ND	10.0	10/02/14 19:28	N2
Benzene	ug/L	ND	1.0	10/02/14 19:28	
Bromodichloromethane	ug/L	ND	1.0	10/02/14 19:28	
Bromoform	ug/L	ND	1.0	10/02/14 19:28	
Bromomethane	ug/L	ND	5.0	10/02/14 19:28	
Carbon tetrachloride	ug/L	ND	1.0	10/02/14 19:28	
Chloroethane	ug/L	ND	1.0	10/02/14 19:28	
Chloroform	ug/L	ND	1.0	10/02/14 19:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	N2
Ethylbenzene	ug/L	ND	1.0	10/02/14 19:28	
Methylene chloride	ug/L	ND	1.0	10/02/14 19:28	
Tetrachloroethene	ug/L	ND	1.0	10/02/14 19:28	
Toluene	ug/L	ND	1.0	10/02/14 19:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Trichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Vinyl chloride	ug/L	ND	1.0	10/02/14 19:28	
Xylene (Total)	ug/L	ND	3.0	10/02/14 19:28	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/02/14 19:28	
4-Bromofluorobenzene (S)	%	104	80-120	10/02/14 19:28	
Toluene-d8 (S)	%	100	80-120	10/02/14 19:28	

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.7	94	67-124	
1,2-Dichloroethane	ug/L	20	19.4	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	77.5	77	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	59-131	N2
Acetone	ug/L	100	74.8	75	38-134	N2
Benzene	ug/L	20	20.1	100	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.1	101	65-127	
Bromomethane	ug/L	20	7.8	39	13-157	
Carbon tetrachloride	ug/L	20	19.7	99	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	19.7	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	20.7	104	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.6	98	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	15.3	77	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	2230	111	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	1920	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1870	93	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1920	96	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	1990	99	33-140	
2-Butanone (MEK)	ug/L	15300	10000	22500	73	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8650	86	40-160	N2
Acetone	ug/L	47700	10000	52900	51	10-160	N2
Benzene	ug/L	ND	2000	2120	106	37-151	
Bromodichloromethane	ug/L	ND	2000	2000	100	35-142	
Bromoform	ug/L	ND	2000	2010	101	45-142	
Bromomethane	ug/L	ND	2000	1120	56	10-158	
Carbon tetrachloride	ug/L	ND	2000	2270	114	70-140	
Chloroethane	ug/L	ND	2000	1990	100	19-152	
Chloroform	ug/L	ND	2000	2030	102	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	2110	105	34-147	N2
Ethylbenzene	ug/L	ND	2000	2160	108	40-142	
Methylene chloride	ug/L	ND	2000	1850	90	31-144	
Tetrachloroethene	ug/L	ND	2000	2170	109	64-148	
Toluene	ug/L	ND	2000	2120	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	2040	102	54-151	
Trichloroethene	ug/L	ND	2000	2130	106	71-149	
Vinyl chloride	ug/L	ND	2000	1970	99	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6380	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: OEXT/46379
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60179026001

METHOD BLANK: 1451654
Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/02/14 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/02/14 08:58	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	10/02/14 08:58	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	10/02/14 08:58	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/02/14 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/02/14 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/02/14 08:58	
Hexachloroethane	ug/L	ND	5.0	10/02/14 08:58	
Naphthalene	ug/L	ND	5.0	10/02/14 08:58	
Nitrobenzene	ug/L	ND	5.0	10/02/14 08:58	
Pentachlorophenol	ug/L	ND	5.0	10/02/14 08:58	
Phenol	ug/L	ND	5.0	10/02/14 08:58	
2,4,6-Tribromophenol (S)	%	80	39-120	10/02/14 08:58	
2-Fluorobiphenyl (S)	%	79	39-120	10/02/14 08:58	
2-Fluorophenol (S)	%	49	17-120	10/02/14 08:58	
Nitrobenzene-d5 (S)	%	76	33-120	10/02/14 08:58	
Phenol-d6 (S)	%	32	11-120	10/02/14 08:58	
Terphenyl-d14 (S)	%	81	45-120	10/02/14 08:58	

LABORATORY CONTROL SAMPLE: 1451655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.6	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.1	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.5	67	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.3	65	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	52.9	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	36.2	36	24-120	
Hexachloroethane	ug/L	50	33.6	67	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	49.6	99	47-120	
Phenol	ug/L	50	17.5	35	16-112	
2,4,6-Tribromophenol (S)	%			90	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			85	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			90	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

MATRIX SPIKE SAMPLE: 1451656

Parameter	Units	60179048002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	51.5	36.7	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	51.5	39.8	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	51.5	34.3	67	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	51.5	30.9	60	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	51.5	53.4	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	51.5	34.5	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	103	38.0	37	11-120	
Hexachloroethane	ug/L	ND	51.5	37.3	72	40-113	
Naphthalene	ug/L	ND	51.5	38.1	74	45-120	
Nitrobenzene	ug/L	ND	51.5	38.6	75	38-120	
Pentachlorophenol	ug/L	ND	51.5	46.2	90	43-135	
Phenol	ug/L	ND	51.5	17.7	34	13-112	
2,4,6-Tribromophenol (S)	%				86	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				81	33-120	
Phenol-d6 (S)	%				34	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 T1-020
Pace Project No.: 60179026

QC Batch: WET/50639
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60179026001

METHOD BLANK: 1452937 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/02/14 15:09	

LABORATORY CONTROL SAMPLE: 1452938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.5	96	78-114	

MATRIX SPIKE SAMPLE: 1452940

Parameter	Units	60178624001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	48.8	44.6	91	78-114	

SAMPLE DUPLICATE: 1452939

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	110	97.2	12	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: WET/50642 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60179026001

METHOD BLANK: 1452945 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/02/14 15:37	

LABORATORY CONTROL SAMPLE: 1452946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.3	112	64-132	

MATRIX SPIKE SAMPLE: 1452948

Parameter	Units	60178624001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	24.4	15.2	61	64-132	M1

SAMPLE DUPLICATE: 1452947

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: WET/50652 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60179026001

METHOD BLANK: 1453325 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/03/14 08:08	

SAMPLE DUPLICATE: 1453326

Parameter	Units	60178962002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1400	1500	7	10	

SAMPLE DUPLICATE: 1453327

Parameter	Units	60179019004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		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 LF T1-020
Pace Project No.: 60179026

QC Batch: WET/50573
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60179026001

SAMPLE DUPLICATE: 1451043

Parameter	Units	60178781001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	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 T1-020
Pace Project No.: 60179026

QC Batch: WET/50554 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60179026001

METHOD BLANK: 1450860 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/04/14 13:12	

LABORATORY CONTROL SAMPLE: 1450861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	96	85-115	

SAMPLE DUPLICATE: 1450862

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	7810	7650	2	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

QC Batch: WETA/31170 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60179026001

METHOD BLANK: 1451144 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/30/14 15:53	

LABORATORY CONTROL SAMPLE: 1451145

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

MATRIX SPIKE SAMPLE: 1451146

Parameter	Units	60178698001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	91	90-110	

MATRIX SPIKE SAMPLE: 1451147

Parameter	Units	60178775002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	98	90-110	

SAMPLE DUPLICATE: 1451148

Parameter	Units	60178778001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	4.0	4.0	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 T1-020
Pace Project No.: 60179026

QC Batch: WETA/31190 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60179026001

METHOD BLANK: 1452321 Matrix: Water
Associated Lab Samples: 60179026001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-020
Pace Project No.: 60179026

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.
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 T1-020
Pace Project No.: 60179026

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179026001	**T1-020**	EPA 200.7	MPRP/29113	EPA 200.7	ICP/21907
60179026001	**T1-020**	EPA 200.7	MPRP/29144	EPA 200.7	ICP/21933
60179026001	**T1-020**	EPA 245.1	MERP/8860	EPA 245.1	MERC/8816
60179026001	**T1-020**	EPA 245.1	MERP/8859	EPA 245.1	MERC/8814
60179026001	**T1-020**	EPA 625	OEXT/46379	EPA 625	MSSV/14912
60179026001	**T1-020**	EPA 624 Low	MSV/64769		
60179026001	**T1-020**	EPA 624 Low	MSV/64799		
60179026002	**TRIP BLANK**	EPA 624 Low	MSV/64769		
60179026002	**TRIP BLANK**	EPA 624 Low	MSV/64799		
60179026001	**T1-020**	EPA 1664A	WET/50639		
60179026001	**T1-020**	EPA 1664A	WET/50642		
60179026001	**T1-020**	SM 2540D	WET/50652		
60179026001	**T1-020**	SM 4500-H+B	WET/50573		
60179026001	**T1-020**	SM 5210B	WET/50554	SM 5210B	WET/50698
60179026001	**T1-020**	EPA 350.1	WETA/31170		
60179026001	**T1-020**	EPA 410.4	WETA/31190		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60179026

60179026

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: JW 9/29/14

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. Bars 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 ~3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☑No ☐N/A	H2SO4 initial pH >6.0 ; added 2 mL ; final pH ~2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: lw Lot # of added preservative: 12513-37-10, 12787-19-8
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sept 18 2014		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16. 4 of 5 sample vials have headspace
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: 10/1/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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	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)	60179026 2(BP2U) BP3U 2(AG4U) BP3S BP3N 3(AG3S)
1	T1-020	OT	G			9/28/14	1030		14	10	4	1	0						X	X	X	X	X	X	X	X	X	X	X			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				Dan 305	9-29-14	0900				
SITE ADDRESS: BRIDGETON LF	[signature] PSI	9-29-14	9:00am	[signature]	9/29/14	1315	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: Kyle Kramer

SIGNATURE of SAMPLER: [signature] DATE Signed: 9-28-14

Pace Analytical Services, Inc.
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October 06, 2014

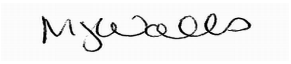
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on September 29, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,



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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

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 T1-019
Pace Project No.: 60179027

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179027001	**T1-019**	Water	09/27/14 16:45	09/29/14 13:15
60179027002	**TRIP BLANK**	Water	09/27/14 16:45	09/29/14 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60179027001	**T1-019**	EPA 200.7	TDS	15
		EPA 200.7	NDJ	15
		EPA 245.1	SMW	1
		EPA 245.1	SMW	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60179027002	**TRIP BLANK**	EPA 624 Low	EAK	28

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PROJECT NARRATIVE

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Date: October 06, 2014

The sample volume received for volatile analysis for leachate sample T1-019 contained head space presence greater than 6mm. Per historical instructions, the analysis is completed and the presence noted.

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Sample: T1-019 **Lab ID: 60179027001** Collected: 09/27/14 16:45 Received: 09/29/14 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	**5160**	ug/L	375	1	09/30/14 16:30	10/02/14 16:18	7429-90-5	
Antimony	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:18	7440-36-0	
Arsenic	**490**	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:18	7440-38-2	
Beryllium	ND	ug/L	5.0	1	09/30/14 16:30	10/02/14 16:18	7440-41-7	
Cadmium	ND	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:18	7440-43-9	
Chromium	**135**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:18	7440-47-3	
Cobalt	**25.4**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:18	7440-48-4	
Copper	ND	ug/L	50.0	1	09/30/14 16:30	10/02/14 16:18	7440-50-8	
Iron	**404000**	ug/L	250	1	09/30/14 16:30	10/02/14 16:18	7439-89-6	
Lead	**70.7**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:18	7439-92-1	
Nickel	**86.2**	ug/L	25.0	1	09/30/14 16:30	10/02/14 16:18	7440-02-0	
Selenium	ND	ug/L	75.0	1	09/30/14 16:30	10/02/14 16:18	7782-49-2	
Silver	ND	ug/L	35.0	1	09/30/14 16:30	10/02/14 16:18	7440-22-4	
Thallium	ND	ug/L	100	1	09/30/14 16:30	10/02/14 16:18	7440-28-0	
Zinc	**2740**	ug/L	250	1	09/30/14 16:30	10/02/14 16:18	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	10/02/14 11:20	10/03/14 16:16	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:16	7440-36-0	
Arsenic, Dissolved	**331**	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	10/02/14 11:20	10/03/14 16:16	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:16	7440-43-9	
Chromium, Dissolved	**78.0**	ug/L	25.0	1	10/02/14 11:20	10/04/14 11:21	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:16	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:16	7440-50-8	
Iron, Dissolved	**50400**	ug/L	250	1	10/02/14 11:20	10/03/14 16:16	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:16	7439-92-1	
Nickel, Dissolved	**61.7**	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:16	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	10/02/14 11:20	10/03/14 16:16	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	10/02/14 11:20	10/03/14 16:16	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	10/02/14 11:20	10/03/14 16:16	7440-28-0	
Zinc, Dissolved	ND	ug/L	250	1	10/02/14 11:20	10/03/14 16:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10.2**	ug/L	6.0	1	10/02/14 11:34	10/02/14 16:22	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	10/02/14 11:34	10/02/14 15:50	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	10/01/14 00:00	10/02/14 10:00	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	77-47-4	
Hexachloroethane	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	10/01/14 00:00	10/02/14 10:00	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**2920**	ug/L	2000	1	10/01/14 00:00	10/02/14 10:00		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Sample: T1-019 **Lab ID: 60179027001** Collected: 09/27/14 16:45 Received: 09/29/14 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	500	1	10/01/14 00:00	10/02/14 10:00	91-20-3	
Nitrobenzene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	87-86-5	
Phenol	**4450**	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	10/01/14 00:00	10/02/14 10:00	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	88	%	33-120	1	10/01/14 00:00	10/02/14 10:00	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	1	10/01/14 00:00	10/02/14 10:00	321-60-8	
Terphenyl-d14 (S)	89	%	45-120	1	10/01/14 00:00	10/02/14 10:00	1718-51-0	
Phenol-d6 (S)	35	%	11-120	1	10/01/14 00:00	10/02/14 10:00	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	1	10/01/14 00:00	10/02/14 10:00	367-12-4	
2,4,6-Tribromophenol (S)	92	%	39-120	1	10/01/14 00:00	10/02/14 10:00	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**41400**	ug/L	1000	100		10/02/14 20:53	67-64-1	N2
Benzene	ND	ug/L	100	100		10/02/14 20:53	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		10/02/14 20:53	75-27-4	
Bromoform	ND	ug/L	100	100		10/02/14 20:53	75-25-2	
Bromomethane	ND	ug/L	500	100		10/02/14 20:53	74-83-9	
2-Butanone (MEK)	**12500**	ug/L	1000	100		10/02/14 20:53	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		10/02/14 20:53	56-23-5	
Chloroethane	ND	ug/L	100	100		10/02/14 20:53	75-00-3	
Chloroform	ND	ug/L	100	100		10/02/14 20:53	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		10/02/14 20:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		10/02/14 20:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 20:53	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 20:53	156-60-5	
Ethylbenzene	ND	ug/L	100	100		10/02/14 20:53	100-41-4	
Methylene chloride	ND	ug/L	100	100		10/02/14 20:53	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		10/02/14 20:53	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		10/02/14 20:53	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		10/02/14 20:53	127-18-4	
Toluene	ND	ug/L	100	100		10/02/14 20:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		10/02/14 20:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		10/02/14 20:53	79-00-5	
Trichloroethene	ND	ug/L	100	100		10/02/14 20:53	79-01-6	
Vinyl chloride	ND	ug/L	100	100		10/02/14 20:53	75-01-4	
Xylene (Total)	ND	ug/L	300	100		10/02/14 20:53	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	106	%	80-120	100		10/02/14 20:53	460-00-4	HS
Toluene-d8 (S)	102	%	80-120	100		10/02/14 20:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	100		10/02/14 20:53	17060-07-0	
Preservation pH	**6.0**		1.0	100		10/02/14 20:53		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**105**	mg/L	5.0	1		10/02/14 15:11		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Sample: T1-019 **Lab ID: 60179027001** Collected: 09/27/14 16:45 Received: 09/29/14 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	ND	mg/L	5.0	1		10/02/14 15:38		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**6820**	mg/L	5.0	1		10/03/14 08:13		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.0**	Std. Units	0.10	1		09/30/14 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**8390**	mg/L	2.0	1	09/29/14 16:16	10/04/14 13:23		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**172**	mg/L	5.0	50		09/30/14 16:29	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**19200**	mg/L	2500	250		10/03/14 12:54		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Sample: TRIP BLANK **Lab ID: 60179027002** Collected: 09/27/14 16:45 Received: 09/29/14 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		10/02/14 19:42	67-64-1	N2
Benzene	ND	ug/L	1.0	1		10/02/14 19:42	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 19:42	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/02/14 19:42	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/02/14 19:42	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		10/02/14 19:42	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 19:42	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/02/14 19:42	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/02/14 19:42	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 19:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 19:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 19:42	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 19:42	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 19:42	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/02/14 19:42	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 19:42	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 19:42	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 19:42	127-18-4	
Toluene	ND	ug/L	1.0	1		10/02/14 19:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 19:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 19:42	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/02/14 19:42	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/02/14 19:42	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/02/14 19:42	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		10/02/14 19:42	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		10/02/14 19:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		10/02/14 19:42	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/02/14 19:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: MERP/8860
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60179027001

METHOD BLANK: 1452468 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/02/14 16:00	

LABORATORY CONTROL SAMPLE: 1452469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452470 1452471

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	13.3	150	150	160	150	98	91	70-130	7	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: MERP/8859
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60179027001

METHOD BLANK: 1452452 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/02/14 15:46	

LABORATORY CONTROL SAMPLE: 1452453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452454 1452455

Parameter	Units	60179027001 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	134	133	89	88	70-130	1	20	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: MPRP/29113
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60179027001

METHOD BLANK: 1451311
Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/02/14 16:02	
Antimony	ug/L	ND	10.0	10/02/14 16:02	
Arsenic	ug/L	ND	10.0	10/02/14 16:02	
Beryllium	ug/L	ND	1.0	10/02/14 16:02	
Cadmium	ug/L	ND	5.0	10/02/14 16:02	
Chromium	ug/L	ND	5.0	10/02/14 16:02	
Cobalt	ug/L	ND	5.0	10/02/14 16:02	
Copper	ug/L	ND	10.0	10/02/14 16:02	
Iron	ug/L	ND	50.0	10/02/14 16:02	
Lead	ug/L	ND	5.0	10/02/14 16:02	
Nickel	ug/L	ND	5.0	10/02/14 16:02	
Selenium	ug/L	ND	15.0	10/02/14 16:02	
Silver	ug/L	ND	7.0	10/02/14 16:02	
Thallium	ug/L	ND	20.0	10/02/14 16:02	
Zinc	ug/L	ND	50.0	10/02/14 16:02	

LABORATORY CONTROL SAMPLE: 1451312

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	968	97	85-115	
Beryllium	ug/L	1000	1030	103	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	956	96	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	999	100	85-115	
Iron	ug/L	10000	9820	98	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	489	98	85-115	
Thallium	ug/L	1000	972	97	85-115	
Zinc	ug/L	1000	944	94	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1451313 1451314

Parameter	Units	60178866001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	4870	50000	50000	60500	60000	111	110	70-130	1	8	
Antimony	ug/L	ND	5000	5000	5540	5420	110	108	70-130	2	7	
Arsenic	ug/L	563	5000	5000	6010	5920	109	107	70-130	2	10	
Beryllium	ug/L	ND	5000	5000	5120	5100	102	102	70-130	0	7	
Cadmium	ug/L	ND	5000	5000	5240	5160	105	103	70-130	2	10	
Chromium	ug/L	126	5000	5000	4820	4790	94	93	70-130	1	10	
Cobalt	ug/L	ND	5000	5000	5120	5100	102	101	70-130	0	6	
Copper	ug/L	ND	5000	5000	5340	5300	107	106	70-130	1	11	
Iron	ug/L	416000	50000	50000	562000	562000	294	294	70-130	0	10	M1
Lead	ug/L	76.8	5000	5000	4910	4840	97	95	70-130	1	10	
Nickel	ug/L	71.6	5000	5000	5020	4940	99	97	70-130	2	10	
Selenium	ug/L	ND	5000	5000	5600	5530	112	111	70-130	1	10	
Silver	ug/L	ND	2500	2500	2610	2580	104	103	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4460	4360	89	87	70-130	2	6	
Zinc	ug/L	2730	5000	5000	7820	7740	102	100	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: MPRP/29144
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60179027001

METHOD BLANK: 1452456
Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/03/14 16:02	
Antimony, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Arsenic, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Beryllium, Dissolved	ug/L	ND	1.0	10/03/14 16:02	
Cadmium, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Chromium, Dissolved	ug/L	ND	5.0	10/04/14 11:07	
Cobalt, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Copper, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Iron, Dissolved	ug/L	ND	50.0	10/03/14 16:02	
Lead, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Nickel, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Selenium, Dissolved	ug/L	ND	15.0	10/03/14 16:02	
Silver, Dissolved	ug/L	ND	7.0	10/03/14 16:02	
Thallium, Dissolved	ug/L	ND	20.0	10/03/14 16:02	
Zinc, Dissolved	ug/L	ND	50.0	10/03/14 16:02	

LABORATORY CONTROL SAMPLE: 1452457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	965	96	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	996	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	989	99	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	988	99	85-115	
Silver, Dissolved	ug/L	500	485	97	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452458 1452459

Parameter	Units	60179026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	53400	53900	106	107	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5320	5380	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	322	5000	5000	5550	5660	105	107	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5170	5220	103	104	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5290	5360	106	107	70-130	1	10	
Chromium, Dissolved	ug/L	77.0	5000	5000	5270	5290	104	104	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5120	5180	102	103	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5350	105	107	70-130	2	11	
Iron, Dissolved	ug/L	38900	50000	50000	91200	92100	105	106	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4980	5020	99	100	70-130	1	10	
Nickel, Dissolved	ug/L	59.0	5000	5000	5160	5220	102	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5460	5520	109	110	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2700	106	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4710	4770	94	95	70-130	1	6	
Zinc, Dissolved	ug/L	290	5000	5000	5420	5460	103	103	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: MSV/64799 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60179027001, 60179027002

METHOD BLANK: 1452781 Matrix: Water
Associated Lab Samples: 60179027001, 60179027002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/02/14 19:28	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,2-Dichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/02/14 19:28	
2-Butanone (MEK)	ug/L	ND	10.0	10/02/14 19:28	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/02/14 19:28	N2
Acetone	ug/L	ND	10.0	10/02/14 19:28	N2
Benzene	ug/L	ND	1.0	10/02/14 19:28	
Bromodichloromethane	ug/L	ND	1.0	10/02/14 19:28	
Bromoform	ug/L	ND	1.0	10/02/14 19:28	
Bromomethane	ug/L	ND	5.0	10/02/14 19:28	
Carbon tetrachloride	ug/L	ND	1.0	10/02/14 19:28	
Chloroethane	ug/L	ND	1.0	10/02/14 19:28	
Chloroform	ug/L	ND	1.0	10/02/14 19:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	N2
Ethylbenzene	ug/L	ND	1.0	10/02/14 19:28	
Methylene chloride	ug/L	ND	1.0	10/02/14 19:28	
Tetrachloroethene	ug/L	ND	1.0	10/02/14 19:28	
Toluene	ug/L	ND	1.0	10/02/14 19:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Trichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Vinyl chloride	ug/L	ND	1.0	10/02/14 19:28	
Xylene (Total)	ug/L	ND	3.0	10/02/14 19:28	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/02/14 19:28	
4-Bromofluorobenzene (S)	%	104	80-120	10/02/14 19:28	
Toluene-d8 (S)	%	100	80-120	10/02/14 19:28	

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.7	94	67-124	
1,2-Dichloroethane	ug/L	20	19.4	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	77.5	77	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	59-131	N2
Acetone	ug/L	100	74.8	75	38-134	N2
Benzene	ug/L	20	20.1	100	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.1	101	65-127	
Bromomethane	ug/L	20	7.8	39	13-157	
Carbon tetrachloride	ug/L	20	19.7	99	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	19.7	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	20.7	104	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.6	98	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	15.3	77	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	2230	111	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	1920	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1870	93	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1920	96	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	1990	99	33-140	
2-Butanone (MEK)	ug/L	15300	10000	22500	73	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8650	86	40-160	N2
Acetone	ug/L	47700	10000	52900	51	10-160	N2
Benzene	ug/L	ND	2000	2120	106	37-151	
Bromodichloromethane	ug/L	ND	2000	2000	100	35-142	
Bromoform	ug/L	ND	2000	2010	101	45-142	
Bromomethane	ug/L	ND	2000	1120	56	10-158	
Carbon tetrachloride	ug/L	ND	2000	2270	114	70-140	
Chloroethane	ug/L	ND	2000	1990	100	19-152	
Chloroform	ug/L	ND	2000	2030	102	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	2110	105	34-147	N2
Ethylbenzene	ug/L	ND	2000	2160	108	40-142	
Methylene chloride	ug/L	ND	2000	1850	90	31-144	
Tetrachloroethene	ug/L	ND	2000	2170	109	64-148	
Toluene	ug/L	ND	2000	2120	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	2040	102	54-151	
Trichloroethene	ug/L	ND	2000	2130	106	71-149	
Vinyl chloride	ug/L	ND	2000	1970	99	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6380	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: OEXT/46379
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60179027001

METHOD BLANK: 1451654
Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/02/14 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/02/14 08:58	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	10/02/14 08:58	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	10/02/14 08:58	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/02/14 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/02/14 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/02/14 08:58	
Hexachloroethane	ug/L	ND	5.0	10/02/14 08:58	
Naphthalene	ug/L	ND	5.0	10/02/14 08:58	
Nitrobenzene	ug/L	ND	5.0	10/02/14 08:58	
Pentachlorophenol	ug/L	ND	5.0	10/02/14 08:58	
Phenol	ug/L	ND	5.0	10/02/14 08:58	
2,4,6-Tribromophenol (S)	%	80	39-120	10/02/14 08:58	
2-Fluorobiphenyl (S)	%	79	39-120	10/02/14 08:58	
2-Fluorophenol (S)	%	49	17-120	10/02/14 08:58	
Nitrobenzene-d5 (S)	%	76	33-120	10/02/14 08:58	
Phenol-d6 (S)	%	32	11-120	10/02/14 08:58	
Terphenyl-d14 (S)	%	81	45-120	10/02/14 08:58	

LABORATORY CONTROL SAMPLE: 1451655

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	37.6	75	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.1	84	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	33.5	67	40-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	50	32.3	65	34-120	N2
4,6-Dinitro-2-methylphenol	ug/L	50	52.9	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	32.1	64	44-116	
Hexachlorocyclopentadiene	ug/L	100	36.2	36	24-120	
Hexachloroethane	ug/L	50	33.6	67	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	48-120	
Pentachlorophenol	ug/L	50	49.6	99	47-120	
Phenol	ug/L	50	17.5	35	16-112	
2,4,6-Tribromophenol (S)	%			90	39-120	
2-Fluorobiphenyl (S)	%			82	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			85	33-120	
Phenol-d6 (S)	%			33	11-120	
Terphenyl-d14 (S)	%			90	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

MATRIX SPIKE SAMPLE: 1451656

Parameter	Units	60179048002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	51.5	36.7	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	51.5	39.8	77	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	51.5	34.3	67	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	51.5	30.9	60	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	51.5	53.4	104	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	51.5	34.5	67	39-116	
Hexachlorocyclopentadiene	ug/L	ND	103	38.0	37	11-120	
Hexachloroethane	ug/L	ND	51.5	37.3	72	40-113	
Naphthalene	ug/L	ND	51.5	38.1	74	45-120	
Nitrobenzene	ug/L	ND	51.5	38.6	75	38-120	
Pentachlorophenol	ug/L	ND	51.5	46.2	90	43-135	
Phenol	ug/L	ND	51.5	17.7	34	13-112	
2,4,6-Tribromophenol (S)	%				86	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				48	17-120	
Nitrobenzene-d5 (S)	%				81	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WET/50639
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60179027001

METHOD BLANK: 1452937 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/02/14 15:09	

LABORATORY CONTROL SAMPLE: 1452938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.5	96	78-114	

MATRIX SPIKE SAMPLE: 1452940

Parameter	Units	60178624001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	48.8	44.6	91	78-114	

SAMPLE DUPLICATE: 1452939

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	110	97.2	12	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WET/50642 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60179027001

METHOD BLANK: 1452945 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/02/14 15:37	

LABORATORY CONTROL SAMPLE: 1452946

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	22.3	112	64-132	

MATRIX SPIKE SAMPLE: 1452948

Parameter	Units	60178624001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	24.4	15.2	61	64-132	M1

SAMPLE DUPLICATE: 1452947

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.7J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WET/50652
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60179027001

METHOD BLANK: 1453325 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/03/14 08:08	

SAMPLE DUPLICATE: 1453326

Parameter	Units	60178962002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1400	1500	7	10	

SAMPLE DUPLICATE: 1453327

Parameter	Units	60179019004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WET/50573
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60179027001

SAMPLE DUPLICATE: 1451043

Parameter	Units	60178781001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.5	6.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WET/50554 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60179027001

METHOD BLANK: 1450860 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/04/14 13:12	

LABORATORY CONTROL SAMPLE: 1450861

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	96	85-115	

SAMPLE DUPLICATE: 1450862

Parameter	Units	60179026001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	7810	7650	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WETA/31170 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60179027001

METHOD BLANK: 1451144 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/30/14 15:53	

LABORATORY CONTROL SAMPLE: 1451145

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

MATRIX SPIKE SAMPLE: 1451146

Parameter	Units	60178698001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	91	90-110	

MATRIX SPIKE SAMPLE: 1451147

Parameter	Units	60178775002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	98	90-110	

SAMPLE DUPLICATE: 1451148

Parameter	Units	60178778001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	4.0	4.0	0	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

QC Batch: WETA/31190
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60179027001

METHOD BLANK: 1452321 Matrix: Water
Associated Lab Samples: 60179027001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

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.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
N2	The lab does not hold TNI accreditation for this parameter.

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(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-019
Pace Project No.: 60179027

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179027001	**T1-019**	EPA 200.7	MPRP/29113	EPA 200.7	ICP/21907
60179027001	**T1-019**	EPA 200.7	MPRP/29144	EPA 200.7	ICP/21933
60179027001	**T1-019**	EPA 245.1	MERP/8860	EPA 245.1	MERC/8816
60179027001	**T1-019**	EPA 245.1	MERP/8859	EPA 245.1	MERC/8814
60179027001	**T1-019**	EPA 625	OEXT/46379	EPA 625	MSSV/14912
60179027001	**T1-019**	EPA 624 Low	MSV/64769		
60179027001	**T1-019**	EPA 624 Low	MSV/64799		
60179027002	**TRIP BLANK**	EPA 624 Low	MSV/64769		
60179027002	**TRIP BLANK**	EPA 624 Low	MSV/64799		
60179027001	**T1-019**	EPA 1664A	WET/50639		
60179027001	**T1-019**	EPA 1664A	WET/50642		
60179027001	**T1-019**	SM 2540D	WET/50652		
60179027001	**T1-019**	SM 4500-H+B	WET/50573		
60179027001	**T1-019**	SM 5210B	WET/50554	SM 5210B	WET/50698
60179027001	**T1-019**	EPA 350.1	WETA/31170		
60179027001	**T1-019**	EPA 410.4	WETA/31190		

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Sample Condition Upon Receipt

WO#: 60179027

60179027

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: VW 9/29/14

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. Bars 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	H2SO4 initial pH >6.0 ; added 2.5 mL ; final pH ~3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes	☑No	☐N/A	H2SO4 initial pH >6.0 ; added 2 mL ; final pH ~2.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		14. Initial when completed: lw Lot # of added preservative: 12513-37-10, 12787-19-8
Trip Blank present: Pace Trip Blank lot # (if purchased): Sept 18 2014	☑Yes	☐No	☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes	☑No	☐N/A	16. 5 of 5 sample vials have headspace - Apply comment
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: MD Date: 10/1/14

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	

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)	60179027
1	TI-019	OT	G			9/27/14	16:45		14	10	4	1	0					X	X	X	X	X	X	X	X	X	X		5(2x40)	G1
2	TRIP BLANK								2	2															X				2(2x40)	G2
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		9-29-14	9:00		9-29-14	0911				
SITE ADDRESS: BRIDGETON LF					9/29/14	1315	1.8	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 KB	DATE Signed:	9/27/14

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

October 08, 2014

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

RE: Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

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 T1-021
Pace Project No.: 60179139

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179139001	**T1-021**	Water	09/29/14 14:53	10/01/14 02:30
60179139002	**TRIP BLANK**	Water	09/29/14 14:58	10/01/14 02:30

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60179139001	**T1-021**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	ZBM	1
		EPA 245.1	SMW	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	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60179139002	**TRIP BLANK**	EPA 624 Low	EAK	28

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Sample: T1-021 **Lab ID: 60179139001** Collected: 09/29/14 14:53 Received: 10/01/14 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	**672**	ug/L	375	1	10/02/14 11:20	10/04/14 15:06	7429-90-5	
Antimony	ND	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:06	7440-36-0	
Arsenic	**333**	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:06	7440-38-2	
Beryllium	ND	ug/L	5.0	1	10/02/14 11:20	10/04/14 15:06	7440-41-7	
Cadmium	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:06	7440-43-9	
Chromium	**94.9**	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:06	7440-47-3	
Cobalt	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:06	7440-48-4	
Copper	ND	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:06	7440-50-8	
Iron	**98800**	ug/L	250	1	10/02/14 11:20	10/04/14 15:06	7439-89-6	
Lead	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:06	7439-92-1	
Nickel	**66.6**	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:06	7440-02-0	
Selenium	ND	ug/L	75.0	1	10/02/14 11:20	10/04/14 15:06	7782-49-2	
Silver	ND	ug/L	35.0	1	10/02/14 11:20	10/04/14 15:06	7440-22-4	
Thallium	ND	ug/L	100	1	10/02/14 11:20	10/04/14 15:06	7440-28-0	
Zinc	**1850**	ug/L	250	1	10/02/14 11:20	10/04/14 15:06	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	10/02/14 11:20	10/03/14 16:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:20	7440-36-0	
Arsenic, Dissolved	**325**	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:20	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	10/02/14 11:20	10/03/14 16:20	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:20	7440-43-9	
Chromium, Dissolved	**81.2**	ug/L	25.0	1	10/02/14 11:20	10/04/14 11:24	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:20	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:20	7440-50-8	
Iron, Dissolved	**66000**	ug/L	250	1	10/02/14 11:20	10/03/14 16:20	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:20	7439-92-1	
Nickel, Dissolved	**64.2**	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:20	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	10/02/14 11:20	10/03/14 16:20	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	10/02/14 11:20	10/03/14 16:20	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	10/02/14 11:20	10/03/14 16:20	7440-28-0	
Zinc, Dissolved	ND	ug/L	250	1	10/02/14 11:20	10/03/14 16:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	10/07/14 09:50	10/07/14 15:55	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	10/02/14 11:34	10/02/14 15:57	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	10/02/14 00:00	10/02/14 17:38	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	77-47-4	
Hexachloroethane	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	10/02/14 00:00	10/02/14 17:38	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3260**	ug/L	2000	1	10/02/14 00:00	10/02/14 17:38		N2

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Sample: T1-021 **Lab ID: 60179139001** Collected: 09/29/14 14:53 Received: 10/01/14 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	500	1	10/02/14 00:00	10/02/14 17:38	91-20-3	
Nitrobenzene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	87-86-5	
Phenol	**4730**	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:38	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	100	%	33-120	1	10/02/14 00:00	10/02/14 17:38	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	1	10/02/14 00:00	10/02/14 17:38	321-60-8	
Terphenyl-d14 (S)	92	%	45-120	1	10/02/14 00:00	10/02/14 17:38	1718-51-0	
Phenol-d6 (S)	36	%	11-120	1	10/02/14 00:00	10/02/14 17:38	13127-88-3	
2-Fluorophenol (S)	51	%	17-120	1	10/02/14 00:00	10/02/14 17:38	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	1	10/02/14 00:00	10/02/14 17:38	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**31700**	ug/L	1000	100		10/02/14 21:21	67-64-1	N2
Benzene	ND	ug/L	100	100		10/02/14 21:21	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		10/02/14 21:21	75-27-4	
Bromoform	ND	ug/L	100	100		10/02/14 21:21	75-25-2	
Bromomethane	ND	ug/L	500	100		10/02/14 21:21	74-83-9	
2-Butanone (MEK)	**8920**	ug/L	1000	100		10/02/14 21:21	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		10/02/14 21:21	56-23-5	
Chloroethane	ND	ug/L	100	100		10/02/14 21:21	75-00-3	
Chloroform	ND	ug/L	100	100		10/02/14 21:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		10/02/14 21:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		10/02/14 21:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:21	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:21	156-60-5	
Ethylbenzene	ND	ug/L	100	100		10/02/14 21:21	100-41-4	
Methylene chloride	ND	ug/L	100	100		10/02/14 21:21	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		10/02/14 21:21	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		10/02/14 21:21	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		10/02/14 21:21	127-18-4	
Toluene	ND	ug/L	100	100		10/02/14 21:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		10/02/14 21:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		10/02/14 21:21	79-00-5	
Trichloroethene	ND	ug/L	100	100		10/02/14 21:21	79-01-6	
Vinyl chloride	ND	ug/L	100	100		10/02/14 21:21	75-01-4	
Xylene (Total)	ND	ug/L	300	100		10/02/14 21:21	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	100		10/02/14 21:21	460-00-4	HS
Toluene-d8 (S)	101	%	80-120	100		10/02/14 21:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	100		10/02/14 21:21	17060-07-0	
Preservation pH	**6.0**		1.0	100		10/02/14 21:21		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**21.6**	mg/L	5.0	1		10/06/14 14:45		D6

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Sample: T1-021 **Lab ID: 60179139001** Collected: 09/29/14 14:53 Received: 10/01/14 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	ND	mg/L	5.0	1		10/06/14 14:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3840**	mg/L	5.0	1		10/03/14 08:19		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.2**	Std. Units	0.10	1		10/06/14 11:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**6370**	mg/L	2.0	1	10/01/14 10:39	10/06/14 09:33		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**189**	mg/L	5.0	50		10/04/14 16:07	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**16300**	mg/L	2500	250		10/03/14 13:00		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Sample: TRIP BLANK **Lab ID: 60179139002** Collected: 09/29/14 14:58 Received: 10/01/14 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		10/02/14 20:10	67-64-1	N2
Benzene	ND	ug/L	1.0	1		10/02/14 20:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 20:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/02/14 20:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/02/14 20:10	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		10/02/14 20:10	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 20:10	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/02/14 20:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/02/14 20:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 20:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 20:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 20:10	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 20:10	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 20:10	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/02/14 20:10	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 20:10	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 20:10	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 20:10	127-18-4	
Toluene	ND	ug/L	1.0	1		10/02/14 20:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 20:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 20:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/02/14 20:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/02/14 20:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/02/14 20:10	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		10/02/14 20:10	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		10/02/14 20:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		10/02/14 20:10	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/02/14 20:10		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: MERP/8873
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60179139001

METHOD BLANK: 1455000 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/07/14 15:15	

LABORATORY CONTROL SAMPLE: 1455001

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: 1455002 1455003

Parameter	Units	60179139001 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	100	97.8	64	62	70-130	2	20	M1

MATRIX SPIKE SAMPLE: 1455004

Parameter	Units	60179148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	150	103	68	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: MERP/8859
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60179139001

METHOD BLANK: 1452452 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/02/14 15:46	

LABORATORY CONTROL SAMPLE: 1452453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452454 1452455

Parameter	Units	60179027001 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	134	133	89	88	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: MPRP/29147
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60179139001

METHOD BLANK: 1452506
Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/04/14 14:55	
Antimony	ug/L	ND	10.0	10/04/14 14:55	
Arsenic	ug/L	ND	10.0	10/04/14 14:55	
Beryllium	ug/L	ND	1.0	10/04/14 14:55	
Cadmium	ug/L	ND	5.0	10/04/14 14:55	
Chromium	ug/L	ND	5.0	10/04/14 14:55	
Cobalt	ug/L	ND	5.0	10/04/14 14:55	
Copper	ug/L	ND	10.0	10/04/14 14:55	
Iron	ug/L	ND	50.0	10/04/14 14:55	
Lead	ug/L	ND	5.0	10/04/14 14:55	
Nickel	ug/L	ND	5.0	10/04/14 14:55	
Selenium	ug/L	ND	15.0	10/04/14 14:55	
Silver	ug/L	ND	7.0	10/04/14 14:55	
Thallium	ug/L	ND	20.0	10/04/14 14:55	
Zinc	ug/L	ND	50.0	10/04/14 14:55	

LABORATORY CONTROL SAMPLE: 1452507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	11000	110	85-115	
Antimony	ug/L	1000	986	99	85-115	
Arsenic	ug/L	1000	963	96	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	990	99	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	9830	98	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	957	96	85-115	
Silver	ug/L	500	503	101	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1060	106	85-115	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452508 1452509

Parameter	Units	60179139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	672	50000	50000	55100	55200	109	109	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5110	5100	102	102	70-130	0	7	
Arsenic	ug/L	333	5000	5000	5420	5450	102	102	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4950	4980	99	100	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5100	5090	102	102	70-130	0	10	
Chromium	ug/L	94.9	5000	5000	5280	5280	104	104	70-130	0	10	
Cobalt	ug/L	ND	5000	5000	5020	4990	100	99	70-130	0	6	
Copper	ug/L	ND	5000	5000	5020	5040	100	101	70-130	0	11	
Iron	ug/L	98800	50000	50000	146000	149000	95	99	70-130	1	10	
Lead	ug/L	ND	5000	5000	4850	4820	96	96	70-130	1	10	
Nickel	ug/L	66.6	5000	5000	4960	4950	98	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5140	5160	103	103	70-130	0	10	
Silver	ug/L	ND	2500	2500	2620	2630	104	105	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc	ug/L	1850	5000	5000	6820	6830	99	100	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: MPRP/29144
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60179139001

METHOD BLANK: 1452456
Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/03/14 16:02	
Antimony, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Arsenic, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Beryllium, Dissolved	ug/L	ND	1.0	10/03/14 16:02	
Cadmium, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Chromium, Dissolved	ug/L	ND	5.0	10/04/14 11:07	
Cobalt, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Copper, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Iron, Dissolved	ug/L	ND	50.0	10/03/14 16:02	
Lead, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Nickel, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Selenium, Dissolved	ug/L	ND	15.0	10/03/14 16:02	
Silver, Dissolved	ug/L	ND	7.0	10/03/14 16:02	
Thallium, Dissolved	ug/L	ND	20.0	10/03/14 16:02	
Zinc, Dissolved	ug/L	ND	50.0	10/03/14 16:02	

LABORATORY CONTROL SAMPLE: 1452457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	965	96	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	996	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	989	99	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	988	99	85-115	
Silver, Dissolved	ug/L	500	485	97	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452458 1452459

Parameter	Units	60179026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	53400	53900	106	107	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5320	5380	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	322	5000	5000	5550	5660	105	107	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5170	5220	103	104	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5290	5360	106	107	70-130	1	10	
Chromium, Dissolved	ug/L	77.0	5000	5000	5270	5290	104	104	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5120	5180	102	103	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5350	105	107	70-130	2	11	
Iron, Dissolved	ug/L	38900	50000	50000	91200	92100	105	106	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4980	5020	99	100	70-130	1	10	
Nickel, Dissolved	ug/L	59.0	5000	5000	5160	5220	102	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5460	5520	109	110	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2700	106	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4710	4770	94	95	70-130	1	6	
Zinc, Dissolved	ug/L	290	5000	5000	5420	5460	103	103	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: MSV/64799
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60179139001, 60179139002

METHOD BLANK: 1452781
Matrix: Water
Associated Lab Samples: 60179139001, 60179139002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/02/14 19:28	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,2-Dichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/02/14 19:28	
2-Butanone (MEK)	ug/L	ND	10.0	10/02/14 19:28	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/02/14 19:28	N2
Acetone	ug/L	ND	10.0	10/02/14 19:28	N2
Benzene	ug/L	ND	1.0	10/02/14 19:28	
Bromodichloromethane	ug/L	ND	1.0	10/02/14 19:28	
Bromoform	ug/L	ND	1.0	10/02/14 19:28	
Bromomethane	ug/L	ND	5.0	10/02/14 19:28	
Carbon tetrachloride	ug/L	ND	1.0	10/02/14 19:28	
Chloroethane	ug/L	ND	1.0	10/02/14 19:28	
Chloroform	ug/L	ND	1.0	10/02/14 19:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	N2
Ethylbenzene	ug/L	ND	1.0	10/02/14 19:28	
Methylene chloride	ug/L	ND	1.0	10/02/14 19:28	
Tetrachloroethene	ug/L	ND	1.0	10/02/14 19:28	
Toluene	ug/L	ND	1.0	10/02/14 19:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Trichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Vinyl chloride	ug/L	ND	1.0	10/02/14 19:28	
Xylene (Total)	ug/L	ND	3.0	10/02/14 19:28	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/02/14 19:28	
4-Bromofluorobenzene (S)	%	104	80-120	10/02/14 19:28	
Toluene-d8 (S)	%	100	80-120	10/02/14 19:28	

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.7	94	67-124	
1,2-Dichloroethane	ug/L	20	19.4	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	77.5	77	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	59-131	N2
Acetone	ug/L	100	74.8	75	38-134	N2
Benzene	ug/L	20	20.1	100	75-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.1	101	65-127	
Bromomethane	ug/L	20	7.8	39	13-157	
Carbon tetrachloride	ug/L	20	19.7	99	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	19.7	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	20.7	104	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.6	98	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	15.3	77	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	2230	111	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	1920	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1870	93	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1920	96	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	1990	99	33-140	
2-Butanone (MEK)	ug/L	15300	10000	22500	73	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8650	86	40-160	N2
Acetone	ug/L	47700	10000	52900	51	10-160	N2
Benzene	ug/L	ND	2000	2120	106	37-151	
Bromodichloromethane	ug/L	ND	2000	2000	100	35-142	
Bromoform	ug/L	ND	2000	2010	101	45-142	
Bromomethane	ug/L	ND	2000	1120	56	10-158	
Carbon tetrachloride	ug/L	ND	2000	2270	114	70-140	
Chloroethane	ug/L	ND	2000	1990	100	19-152	
Chloroform	ug/L	ND	2000	2030	102	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	2110	105	34-147	N2
Ethylbenzene	ug/L	ND	2000	2160	108	40-142	
Methylene chloride	ug/L	ND	2000	1850	90	31-144	
Tetrachloroethene	ug/L	ND	2000	2170	109	64-148	
Toluene	ug/L	ND	2000	2120	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	2040	102	54-151	
Trichloroethene	ug/L	ND	2000	2130	106	71-149	
Vinyl chloride	ug/L	ND	2000	1970	99	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6380	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: OEXT/46412
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60179139001

METHOD BLANK: 1452366
Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/02/14 15:33	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/02/14 15:33	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	10/02/14 15:33	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	10/02/14 15:33	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/02/14 15:33	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/02/14 15:33	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/02/14 15:33	
Hexachloroethane	ug/L	ND	5.0	10/02/14 15:33	
Naphthalene	ug/L	ND	5.0	10/02/14 15:33	
Nitrobenzene	ug/L	ND	5.0	10/02/14 15:33	
Pentachlorophenol	ug/L	ND	5.0	10/02/14 15:33	
Phenol	ug/L	ND	5.0	10/02/14 15:33	
2,4,6-Tribromophenol (S)	%	96	39-120	10/02/14 15:33	
2-Fluorobiphenyl (S)	%	87	39-120	10/02/14 15:33	
2-Fluorophenol (S)	%	53	17-120	10/02/14 15:33	
Nitrobenzene-d5 (S)	%	92	33-120	10/02/14 15:33	
Phenol-d6 (S)	%	36	11-120	10/02/14 15:33	
Terphenyl-d14 (S)	%	101	45-120	10/02/14 15:33	

LABORATORY CONTROL SAMPLE: 1452367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.8	78	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.1	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.6	73	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	55.5	111	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.6	71	44-116	
Hexachlorocyclopentadiene	ug/L	100	35.7	36	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	41.0	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	49.5	99	47-120	
Phenol	ug/L	50	17.6	35	16-112	
2,4,6-Tribromophenol (S)	%			97	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			88	33-120	
Phenol-d6 (S)	%			34	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 T1-021
Pace Project No.: 60179139

MATRIX SPIKE SAMPLE: 1452368

Parameter	Units	60179118001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	51.5	40.9	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	51.5	45.9	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	51.5	37.0	72	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	51.5	34.5	67	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	51.5	59.0	114	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	51.5	40.9	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	103	45.4	44	11-120	
Hexachloroethane	ug/L	ND	51.5	40.6	79	40-113	
Naphthalene	ug/L	ND	51.5	42.1	82	45-120	
Nitrobenzene	ug/L	ND	51.5	43.3	84	38-120	
Pentachlorophenol	ug/L	ND	51.5	54.3	105	43-135	
Phenol	ug/L	ND	51.5	18.1	35	13-112	
2,4,6-Tribromophenol (S)	%				98	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				49	17-120	
Nitrobenzene-d5 (S)	%				89	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				92	45-120	

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REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WET/50701 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60179139001

METHOD BLANK: 1454968 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/06/14 14:43	

LABORATORY CONTROL SAMPLE: 1454969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.4	106	78-114	

MATRIX SPIKE SAMPLE: 1454971

Parameter	Units	60178838001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43.5	38.4	87	78-114	

SAMPLE DUPLICATE: 1454970

Parameter	Units	60179139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	21.6	37.4	54	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WET/50702 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60179139001

METHOD BLANK: 1454972 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/06/14 14:50	

LABORATORY CONTROL SAMPLE: 1454973

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: 1454975

Parameter	Units	60178838001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	15.2	66	64-132	

SAMPLE DUPLICATE: 1454974

Parameter	Units	60179139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.3		34	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WET/50653
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60179139001

METHOD BLANK: 1453330
Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/03/14 08:13	

SAMPLE DUPLICATE: 1453331

Parameter	Units	60179049001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	8.0	13	10	R1

SAMPLE DUPLICATE: 1453332

Parameter	Units	60179067001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	13.0	15.0	14	10	R1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WET/50689
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60179139001

SAMPLE DUPLICATE: 1454785

Parameter	Units	60179139001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WET/50594 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60179139001

METHOD BLANK: 1451704 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/06/14 08:50	

LABORATORY CONTROL SAMPLE: 1451705

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1451706

Parameter	Units	60179048002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2.9	2.8	3	17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WETA/31230
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60179139001

METHOD BLANK: 1454196 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/04/14 15:40	

LABORATORY CONTROL SAMPLE: 1454197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1454198

Parameter	Units	60178861002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.28	2	2.0	87	90-110	M1

MATRIX SPIKE SAMPLE: 1454199

Parameter	Units	60178863001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	11.1	10	19.1	79	90-110	M1

SAMPLE DUPLICATE: 1454200

Parameter	Units	60178864001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	16.6	16.1	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

QC Batch: WETA/31190 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60179139001

METHOD BLANK: 1452321 Matrix: Water
Associated Lab Samples: 60179139001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

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.

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

Project: BRIDGETON LF T1-021
Pace Project No.: 60179139

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179139001	**T1-021**	EPA 200.7	MPRP/29147	EPA 200.7	ICP/21932
60179139001	**T1-021**	EPA 200.7	MPRP/29144	EPA 200.7	ICP/21933
60179139001	**T1-021**	EPA 245.1	MERP/8873	EPA 245.1	MERC/8830
60179139001	**T1-021**	EPA 245.1	MERP/8859	EPA 245.1	MERC/8814
60179139001	**T1-021**	EPA 625	OEXT/46412	EPA 625	MSSV/14918
60179139001	**T1-021**	EPA 624 Low	MSV/64769		
60179139001	**T1-021**	EPA 624 Low	MSV/64799		
60179139002	**TRIP BLANK**	EPA 624 Low	MSV/64769		
60179139002	**TRIP BLANK**	EPA 624 Low	MSV/64799		
60179139001	**T1-021**	EPA 1664A	WET/50701		
60179139001	**T1-021**	EPA 1664A	WET/50702		
60179139001	**T1-021**	SM 2540D	WET/50653		
60179139001	**T1-021**	SM 4500-H+B	WET/50689		
60179139001	**T1-021**	SM 5210B	WET/50594	SM 5210B	WET/50686
60179139001	**T1-021**	EPA 350.1	WETA/31230		
60179139001	**T1-021**	EPA 410.4	WETA/31190		

Pace Analytical
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Sample Condition Upon Receipt

WO#: 60179139

60179139

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: 2-0

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PVT PV 10/1/14

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	Added 2.5 ml of HNO3 to BP3N. 5.0/3-0 Added 2.0 ml of H2SO4 to BP3S. 5.0/1-5
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 12784
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cover		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	4 of 5 bags 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: 10/1/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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)	60179139
1	T1-0212AG4U 1BP3U 3AG3S	OT	G	9/29/14	1453				15	10	4	1	0	1BP3S			1BP3N		X	X	X	X	X	X	X	X	X	X	X	2BP2U		5D6GU A1
2	TRIP BLANK								2	2																X					2D6GU WZ
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	FGI	9-30-14	12:20	327	9/30	1220				
SITE ADDRESS: BRIDGETON LF				PACE	10/1/14	0230	2.0	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: 9/29/14				

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

October 08, 2014

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

RE: Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

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 T1-022
Pace Project No.: 60179148

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60179148001	**T1-022**	Water	09/30/14 10:04	10/01/14 02:30
60179148002	**TRIP BLANK**	Water	09/30/14 10:04	10/01/14 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60179148001	**T1-022**	EPA 200.7	NDJ	15
		EPA 200.7	NDJ	15
		EPA 245.1	ZBM	1
		EPA 245.1	SMW	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	ESM	1
		SM 5210B	ESM	1
		EPA 350.1	AJM	1
		EPA 410.4	JMC1	1
60179148002	**TRIP BLANK**	EPA 624 Low	EAK	28

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Sample: T1-022 **Lab ID: 60179148001** Collected: 09/30/14 10:04 Received: 10/01/14 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	**708**	ug/L	375	1	10/02/14 11:20	10/04/14 15:17	7429-90-5	
Antimony	ND	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:17	7440-36-0	
Arsenic	**433**	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:17	7440-38-2	
Beryllium	ND	ug/L	5.0	1	10/02/14 11:20	10/04/14 15:17	7440-41-7	
Cadmium	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:17	7440-43-9	
Chromium	**107**	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:17	7440-47-3	
Cobalt	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:17	7440-48-4	
Copper	ND	ug/L	50.0	1	10/02/14 11:20	10/04/14 15:17	7440-50-8	
Iron	**61600**	ug/L	250	1	10/02/14 11:20	10/04/14 15:17	7439-89-6	
Lead	ND	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:17	7439-92-1	
Nickel	**70.6**	ug/L	25.0	1	10/02/14 11:20	10/04/14 15:17	7440-02-0	
Selenium	ND	ug/L	75.0	1	10/02/14 11:20	10/04/14 15:17	7782-49-2	
Silver	ND	ug/L	35.0	1	10/02/14 11:20	10/04/14 15:17	7440-22-4	
Thallium	ND	ug/L	100	1	10/02/14 11:20	10/04/14 15:17	7440-28-0	
Zinc	**2160**	ug/L	250	1	10/02/14 11:20	10/04/14 15:17	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	10/02/14 11:20	10/03/14 16:23	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:23	7440-36-0	
Arsenic, Dissolved	**365**	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:23	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	1	10/02/14 11:20	10/03/14 16:23	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:23	7440-43-9	
Chromium, Dissolved	**85.3**	ug/L	25.0	1	10/02/14 11:20	10/04/14 11:35	7440-47-3	
Cobalt, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:23	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	10/02/14 11:20	10/03/14 16:23	7440-50-8	
Iron, Dissolved	**35700**	ug/L	250	1	10/02/14 11:20	10/03/14 16:23	7439-89-6	
Lead, Dissolved	ND	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:23	7439-92-1	
Nickel, Dissolved	**65.1**	ug/L	25.0	1	10/02/14 11:20	10/03/14 16:23	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	10/02/14 11:20	10/03/14 16:23	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	10/02/14 11:20	10/03/14 16:23	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	10/02/14 11:20	10/03/14 16:23	7440-28-0	
Zinc, Dissolved	**341**	ug/L	250	1	10/02/14 11:20	10/03/14 16:23	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	6.0	1	10/07/14 09:50	10/07/14 16:02	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	10/02/14 11:34	10/02/14 15:59	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	2500	1	10/02/14 00:00	10/02/14 17:59	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	77-47-4	
Hexachloroethane	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	67-72-1	
2-Methylphenol(o-Cresol)	ND	ug/L	1000	1	10/02/14 00:00	10/02/14 17:59	95-48-7	N2
3&4-Methylphenol(m&p Cresol)	**3150**	ug/L	2000	1	10/02/14 00:00	10/02/14 17:59		N2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Sample: T1-022 **Lab ID: 60179148001** Collected: 09/30/14 10:04 Received: 10/01/14 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	500	1	10/02/14 00:00	10/02/14 17:59	91-20-3	
Nitrobenzene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	98-95-3	
Pentachlorophenol	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	87-86-5	
Phenol	**4550**	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	500	1	10/02/14 00:00	10/02/14 17:59	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	99	%	33-120	1	10/02/14 00:00	10/02/14 17:59	4165-60-0	
2-Fluorobiphenyl (S)	81	%	39-120	1	10/02/14 00:00	10/02/14 17:59	321-60-8	
Terphenyl-d14 (S)	92	%	45-120	1	10/02/14 00:00	10/02/14 17:59	1718-51-0	
Phenol-d6 (S)	35	%	11-120	1	10/02/14 00:00	10/02/14 17:59	13127-88-3	
2-Fluorophenol (S)	50	%	17-120	1	10/02/14 00:00	10/02/14 17:59	367-12-4	
2,4,6-Tribromophenol (S)	99	%	39-120	1	10/02/14 00:00	10/02/14 17:59	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acetone	**48600**	ug/L	1000	100		10/02/14 21:35	67-64-1	N2
Benzene	ND	ug/L	100	100		10/02/14 21:35	71-43-2	
Bromodichloromethane	ND	ug/L	100	100		10/02/14 21:35	75-27-4	
Bromoform	ND	ug/L	100	100		10/02/14 21:35	75-25-2	
Bromomethane	ND	ug/L	500	100		10/02/14 21:35	74-83-9	
2-Butanone (MEK)	**16100**	ug/L	1000	100		10/02/14 21:35	78-93-3	N2
Carbon tetrachloride	ND	ug/L	100	100		10/02/14 21:35	56-23-5	
Chloroethane	ND	ug/L	100	100		10/02/14 21:35	75-00-3	
Chloroform	ND	ug/L	100	100		10/02/14 21:35	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	100	100		10/02/14 21:35	106-46-7	
1,2-Dichloroethane	ND	ug/L	100	100		10/02/14 21:35	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:35	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	100	100		10/02/14 21:35	156-60-5	
Ethylbenzene	ND	ug/L	100	100		10/02/14 21:35	100-41-4	
Methylene chloride	ND	ug/L	100	100		10/02/14 21:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	1000	100		10/02/14 21:35	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	100	100		10/02/14 21:35	79-34-5	N2
Tetrachloroethene	ND	ug/L	100	100		10/02/14 21:35	127-18-4	
Toluene	ND	ug/L	100	100		10/02/14 21:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	100	100		10/02/14 21:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	100	100		10/02/14 21:35	79-00-5	
Trichloroethene	ND	ug/L	100	100		10/02/14 21:35	79-01-6	
Vinyl chloride	ND	ug/L	100	100		10/02/14 21:35	75-01-4	
Xylene (Total)	ND	ug/L	300	100		10/02/14 21:35	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	100		10/02/14 21:35	460-00-4	
Toluene-d8 (S)	102	%	80-120	100		10/02/14 21:35	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	100		10/02/14 21:35	17060-07-0	
Preservation pH	**6.0**		1.0	100		10/02/14 21:35		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**57.4**	mg/L	5.0	1		10/06/14 14:45		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Sample: T1-022 **Lab ID: 60179148001** Collected: 09/30/14 10:04 Received: 10/01/14 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	**5.7**	mg/L	5.0	1		10/06/14 14:52		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3600**	mg/L	5.0	1		10/06/14 10:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		10/03/14 12:58		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**9160**	mg/L	2.0	1	10/02/14 09:54	10/07/14 08:37		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**219**	mg/L	5.0	50		10/04/14 16:08	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**20900**	mg/L	2500	250		10/03/14 13:01		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Sample: TRIP BLANK **Lab ID: 60179148002** Collected: 09/30/14 10:04 Received: 10/01/14 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		10/02/14 20:24	67-64-1	N2
Benzene	ND	ug/L	1.0	1		10/02/14 20:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/02/14 20:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/02/14 20:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/02/14 20:24	74-83-9	
2-Butanone (MEK)	ND	ug/L	10.0	1		10/02/14 20:24	78-93-3	N2
Carbon tetrachloride	ND	ug/L	1.0	1		10/02/14 20:24	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/02/14 20:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/02/14 20:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/02/14 20:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/02/14 20:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 20:24	156-59-2	N2
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/02/14 20:24	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/02/14 20:24	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/02/14 20:24	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		10/02/14 20:24	108-10-1	N2
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/02/14 20:24	79-34-5	N2
Tetrachloroethene	ND	ug/L	1.0	1		10/02/14 20:24	127-18-4	
Toluene	ND	ug/L	1.0	1		10/02/14 20:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/02/14 20:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/02/14 20:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/02/14 20:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/02/14 20:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/02/14 20:24	1330-20-7	N2
Surrogates								
4-Bromofluorobenzene (S)	104	%	80-120	1		10/02/14 20:24	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		10/02/14 20:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		10/02/14 20:24	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/02/14 20:24		

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: MERP/8873
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60179148001

METHOD BLANK: 1455000 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/07/14 15:15	

LABORATORY CONTROL SAMPLE: 1455001

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: 1455002 1455003

Parameter	Units	60179139001 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	100	97.8	64	62	70-130	2	20	M1

MATRIX SPIKE SAMPLE: 1455004

Parameter	Units	60179148001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	150	103	68	70-130	M1

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: MERP/8859
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60179148001

METHOD BLANK: 1452452 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/02/14 15:46	

LABORATORY CONTROL SAMPLE: 1452453

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452454 1452455

Parameter	Units	60179027001 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	134	133	89	88	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: MPRP/29147
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60179148001

METHOD BLANK: 1452506
Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/04/14 14:55	
Antimony	ug/L	ND	10.0	10/04/14 14:55	
Arsenic	ug/L	ND	10.0	10/04/14 14:55	
Beryllium	ug/L	ND	1.0	10/04/14 14:55	
Cadmium	ug/L	ND	5.0	10/04/14 14:55	
Chromium	ug/L	ND	5.0	10/04/14 14:55	
Cobalt	ug/L	ND	5.0	10/04/14 14:55	
Copper	ug/L	ND	10.0	10/04/14 14:55	
Iron	ug/L	ND	50.0	10/04/14 14:55	
Lead	ug/L	ND	5.0	10/04/14 14:55	
Nickel	ug/L	ND	5.0	10/04/14 14:55	
Selenium	ug/L	ND	15.0	10/04/14 14:55	
Silver	ug/L	ND	7.0	10/04/14 14:55	
Thallium	ug/L	ND	20.0	10/04/14 14:55	
Zinc	ug/L	ND	50.0	10/04/14 14:55	

LABORATORY CONTROL SAMPLE: 1452507

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	11000	110	85-115	
Antimony	ug/L	1000	986	99	85-115	
Arsenic	ug/L	1000	963	96	85-115	
Beryllium	ug/L	1000	1040	104	85-115	
Cadmium	ug/L	1000	990	99	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1050	105	85-115	
Copper	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	9830	98	85-115	
Lead	ug/L	1000	1050	105	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	957	96	85-115	
Silver	ug/L	500	503	101	85-115	
Thallium	ug/L	1000	1040	104	85-115	
Zinc	ug/L	1000	1060	106	85-115	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452508 1452509

Parameter	Units	60179139001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	672	50000	50000	55100	55200	109	109	70-130	0	8	
Antimony	ug/L	ND	5000	5000	5110	5100	102	102	70-130	0	7	
Arsenic	ug/L	333	5000	5000	5420	5450	102	102	70-130	0	10	
Beryllium	ug/L	ND	5000	5000	4950	4980	99	100	70-130	1	7	
Cadmium	ug/L	ND	5000	5000	5100	5090	102	102	70-130	0	10	
Chromium	ug/L	94.9	5000	5000	5280	5280	104	104	70-130	0	10	
Cobalt	ug/L	ND	5000	5000	5020	4990	100	99	70-130	0	6	
Copper	ug/L	ND	5000	5000	5020	5040	100	101	70-130	0	11	
Iron	ug/L	98800	50000	50000	146000	149000	95	99	70-130	1	10	
Lead	ug/L	ND	5000	5000	4850	4820	96	96	70-130	1	10	
Nickel	ug/L	66.6	5000	5000	4960	4950	98	98	70-130	0	10	
Selenium	ug/L	ND	5000	5000	5140	5160	103	103	70-130	0	10	
Silver	ug/L	ND	2500	2500	2620	2630	104	105	70-130	1	10	
Thallium	ug/L	ND	5000	5000	4550	4550	91	91	70-130	0	6	
Zinc	ug/L	1850	5000	5000	6820	6830	99	100	70-130	0	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: MPRP/29144
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60179148001

METHOD BLANK: 1452456
Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/03/14 16:02	
Antimony, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Arsenic, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Beryllium, Dissolved	ug/L	ND	1.0	10/03/14 16:02	
Cadmium, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Chromium, Dissolved	ug/L	ND	5.0	10/04/14 11:07	
Cobalt, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Copper, Dissolved	ug/L	ND	10.0	10/03/14 16:02	
Iron, Dissolved	ug/L	ND	50.0	10/03/14 16:02	
Lead, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Nickel, Dissolved	ug/L	ND	5.0	10/03/14 16:02	
Selenium, Dissolved	ug/L	ND	15.0	10/03/14 16:02	
Silver, Dissolved	ug/L	ND	7.0	10/03/14 16:02	
Thallium, Dissolved	ug/L	ND	20.0	10/03/14 16:02	
Zinc, Dissolved	ug/L	ND	50.0	10/03/14 16:02	

LABORATORY CONTROL SAMPLE: 1452457

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10500	105	85-115	
Antimony, Dissolved	ug/L	1000	996	100	85-115	
Arsenic, Dissolved	ug/L	1000	965	96	85-115	
Beryllium, Dissolved	ug/L	1000	1060	106	85-115	
Cadmium, Dissolved	ug/L	1000	996	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	989	99	85-115	
Iron, Dissolved	ug/L	10000	10300	103	85-115	
Lead, Dissolved	ug/L	1000	1020	102	85-115	
Nickel, Dissolved	ug/L	1000	1050	105	85-115	
Selenium, Dissolved	ug/L	1000	988	99	85-115	
Silver, Dissolved	ug/L	500	485	97	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

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REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1452458 1452459

Parameter	Units	60179026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	50000	50000	53400	53900	106	107	70-130	1	8	
Antimony, Dissolved	ug/L	ND	5000	5000	5320	5380	106	107	70-130	1	7	
Arsenic, Dissolved	ug/L	322	5000	5000	5550	5660	105	107	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	5170	5220	103	104	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5290	5360	106	107	70-130	1	10	
Chromium, Dissolved	ug/L	77.0	5000	5000	5270	5290	104	104	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	5000	5000	5120	5180	102	103	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5260	5350	105	107	70-130	2	11	
Iron, Dissolved	ug/L	38900	50000	50000	91200	92100	105	106	70-130	1	10	
Lead, Dissolved	ug/L	ND	5000	5000	4980	5020	99	100	70-130	1	10	
Nickel, Dissolved	ug/L	59.0	5000	5000	5160	5220	102	103	70-130	1	10	
Selenium, Dissolved	ug/L	ND	5000	5000	5460	5520	109	110	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2660	2700	106	108	70-130	1	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4710	4770	94	95	70-130	1	6	
Zinc, Dissolved	ug/L	290	5000	5000	5420	5460	103	103	70-130	1	11	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: MSV/64799 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60179148001, 60179148002

METHOD BLANK: 1452781 Matrix: Water
Associated Lab Samples: 60179148001, 60179148002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/02/14 19:28	N2
1,1,2-Trichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,2-Dichloroethane	ug/L	ND	1.0	10/02/14 19:28	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/02/14 19:28	
2-Butanone (MEK)	ug/L	ND	10.0	10/02/14 19:28	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/02/14 19:28	N2
Acetone	ug/L	ND	10.0	10/02/14 19:28	N2
Benzene	ug/L	ND	1.0	10/02/14 19:28	
Bromodichloromethane	ug/L	ND	1.0	10/02/14 19:28	
Bromoform	ug/L	ND	1.0	10/02/14 19:28	
Bromomethane	ug/L	ND	5.0	10/02/14 19:28	
Carbon tetrachloride	ug/L	ND	1.0	10/02/14 19:28	
Chloroethane	ug/L	ND	1.0	10/02/14 19:28	
Chloroform	ug/L	ND	1.0	10/02/14 19:28	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	N2
Ethylbenzene	ug/L	ND	1.0	10/02/14 19:28	
Methylene chloride	ug/L	ND	1.0	10/02/14 19:28	
Tetrachloroethene	ug/L	ND	1.0	10/02/14 19:28	
Toluene	ug/L	ND	1.0	10/02/14 19:28	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Trichloroethene	ug/L	ND	1.0	10/02/14 19:28	
Vinyl chloride	ug/L	ND	1.0	10/02/14 19:28	
Xylene (Total)	ug/L	ND	3.0	10/02/14 19:28	N2
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/02/14 19:28	
4-Bromofluorobenzene (S)	%	104	80-120	10/02/14 19:28	
Toluene-d8 (S)	%	100	80-120	10/02/14 19:28	

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	67-129	
1,1,2,2-Tetrachloroethane	ug/L	20	19.1	96	67-127	N2
1,1,2-Trichloroethane	ug/L	20	18.7	94	67-124	
1,2-Dichloroethane	ug/L	20	19.4	97	70-126	
1,4-Dichlorobenzene	ug/L	20	19.4	97	74-120	
2-Butanone (MEK)	ug/L	100	77.5	77	42-153	N2
4-Methyl-2-pentanone (MIBK)	ug/L	100	94.2	94	59-131	N2
Acetone	ug/L	100	74.8	75	38-134	N2
Benzene	ug/L	20	20.1	100	75-120	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

LABORATORY CONTROL SAMPLE: 1452782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromodichloromethane	ug/L	20	20.0	100	68-125	
Bromoform	ug/L	20	20.1	101	65-127	
Bromomethane	ug/L	20	7.8	39	13-157	
Carbon tetrachloride	ug/L	20	19.7	99	70-131	
Chloroethane	ug/L	20	19.2	96	47-133	
Chloroform	ug/L	20	19.7	99	65-127	
cis-1,2-Dichloroethene	ug/L	20	20.3	102	68-127	N2
Ethylbenzene	ug/L	20	20.7	104	74-122	
Methylene chloride	ug/L	20	17.6	88	64-129	
Tetrachloroethene	ug/L	20	19.6	98	73-125	
Toluene	ug/L	20	20.2	101	69-126	
trans-1,2-Dichloroethene	ug/L	20	18.7	94	66-129	
Trichloroethene	ug/L	20	20.2	101	71-123	
Vinyl chloride	ug/L	20	15.3	77	43-129	
Xylene (Total)	ug/L	60	61.5	103	75-121	N2
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	2000	2230	111	52-155	
1,1,2,2-Tetrachloroethane	ug/L	ND	2000	1920	96	46-146	N2
1,1,2-Trichloroethane	ug/L	ND	2000	1870	93	52-143	
1,2-Dichloroethane	ug/L	ND	2000	1920	96	49-144	
1,4-Dichlorobenzene	ug/L	ND	2000	1990	99	33-140	
2-Butanone (MEK)	ug/L	15300	10000	22500	73	40-160	N2
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10000	8650	86	40-160	N2
Acetone	ug/L	47700	10000	52900	51	10-160	N2
Benzene	ug/L	ND	2000	2120	106	37-151	
Bromodichloromethane	ug/L	ND	2000	2000	100	35-142	
Bromoform	ug/L	ND	2000	2010	101	45-142	
Bromomethane	ug/L	ND	2000	1120	56	10-158	
Carbon tetrachloride	ug/L	ND	2000	2270	114	70-140	
Chloroethane	ug/L	ND	2000	1990	100	19-152	
Chloroform	ug/L	ND	2000	2030	102	51-138	
cis-1,2-Dichloroethene	ug/L	ND	2000	2110	105	34-147	N2
Ethylbenzene	ug/L	ND	2000	2160	108	40-142	
Methylene chloride	ug/L	ND	2000	1850	90	31-144	
Tetrachloroethene	ug/L	ND	2000	2170	109	64-148	
Toluene	ug/L	ND	2000	2120	106	47-150	
trans-1,2-Dichloroethene	ug/L	ND	2000	2040	102	54-151	
Trichloroethene	ug/L	ND	2000	2130	106	71-149	
Vinyl chloride	ug/L	ND	2000	1970	99	22-146	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

MATRIX SPIKE SAMPLE: 1452783

Parameter	Units	60179262001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	ND	6000	6380	106	37-144	N2
1,2-Dichloroethane-d4 (S)	%				90	80-120	
4-Bromofluorobenzene (S)	%				104	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: OEXT/46412
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60179148001

METHOD BLANK: 1452366
Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/02/14 15:33	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/02/14 15:33	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	10/02/14 15:33	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	20.0	10/02/14 15:33	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/02/14 15:33	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/02/14 15:33	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/02/14 15:33	
Hexachloroethane	ug/L	ND	5.0	10/02/14 15:33	
Naphthalene	ug/L	ND	5.0	10/02/14 15:33	
Nitrobenzene	ug/L	ND	5.0	10/02/14 15:33	
Pentachlorophenol	ug/L	ND	5.0	10/02/14 15:33	
Phenol	ug/L	ND	5.0	10/02/14 15:33	
2,4,6-Tribromophenol (S)	%	96	39-120	10/02/14 15:33	
2-Fluorobiphenyl (S)	%	87	39-120	10/02/14 15:33	
2-Fluorophenol (S)	%	53	17-120	10/02/14 15:33	
Nitrobenzene-d5 (S)	%	92	33-120	10/02/14 15:33	
Phenol-d6 (S)	%	36	11-120	10/02/14 15:33	
Terphenyl-d14 (S)	%	101	45-120	10/02/14 15:33	

LABORATORY CONTROL SAMPLE: 1452367

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.8	78	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.1	88	49-120	
2-Methylphenol(o-Cresol)	ug/L	50	36.6	73	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	55.5	111	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.6	71	44-116	
Hexachlorocyclopentadiene	ug/L	100	35.7	36	24-120	
Hexachloroethane	ug/L	50	35.6	71	43-113	
Naphthalene	ug/L	50	41.0	82	48-120	
Nitrobenzene	ug/L	50	42.1	84	48-120	
Pentachlorophenol	ug/L	50	49.5	99	47-120	
Phenol	ug/L	50	17.6	35	16-112	
2,4,6-Tribromophenol (S)	%			97	39-120	
2-Fluorobiphenyl (S)	%			81	39-120	
2-Fluorophenol (S)	%			50	17-120	
Nitrobenzene-d5 (S)	%			88	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			92	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

MATRIX SPIKE SAMPLE: 1452368

Parameter	Units	60179118001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	51.5	40.9	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	51.5	45.9	89	50-120	
2-Methylphenol(o-Cresol)	ug/L	ND	51.5	37.0	72	30-120	N2
3&4-Methylphenol(m&p Cresol)	ug/L	ND	51.5	34.5	67	27-120	N2
4,6-Dinitro-2-methylphenol	ug/L	ND	51.5	59.0	114	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	51.5	40.9	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	103	45.4	44	11-120	
Hexachloroethane	ug/L	ND	51.5	40.6	79	40-113	
Naphthalene	ug/L	ND	51.5	42.1	82	45-120	
Nitrobenzene	ug/L	ND	51.5	43.3	84	38-120	
Pentachlorophenol	ug/L	ND	51.5	54.3	105	43-135	
Phenol	ug/L	ND	51.5	18.1	35	13-112	
2,4,6-Tribromophenol (S)	%				98	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				49	17-120	
Nitrobenzene-d5 (S)	%				89	33-120	
Phenol-d6 (S)	%				34	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 T1-022
Pace Project No.: 60179148

QC Batch: WET/50701 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60179148001

METHOD BLANK: 1454968 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/06/14 14:43	

LABORATORY CONTROL SAMPLE: 1454969

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.4	106	78-114	

MATRIX SPIKE SAMPLE: 1454971

Parameter	Units	60178838001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43.5	38.4	87	78-114	

SAMPLE DUPLICATE: 1454970

Parameter	Units	60179139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	21.6	37.4	54	18	D6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: WET/50702 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60179148001

METHOD BLANK: 1454972 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/06/14 14:50	

LABORATORY CONTROL SAMPLE: 1454973

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: 1454975

Parameter	Units	60178838001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	15.2	66	64-132	

SAMPLE DUPLICATE: 1454974

Parameter	Units	60179139001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.3		34	

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

QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: WET/50678 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60179148001

METHOD BLANK: 1454710 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/06/14 10:45	

SAMPLE DUPLICATE: 1454711

Parameter	Units	60179138001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		10	

SAMPLE DUPLICATE: 1454712

Parameter	Units	60179178002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		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 T1-022
Pace Project No.: 60179148

QC Batch: WET/50661
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60179148001

SAMPLE DUPLICATE: 1453596

Parameter	Units	60179319001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	1	5	H6

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: WET/50627 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60179148001

METHOD BLANK: 1452434 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/07/14 08:26	

LABORATORY CONTROL SAMPLE: 1452435

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	185	94	85-115	

SAMPLE DUPLICATE: 1452436

Parameter	Units	60179164004 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		17	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: WETA/31230
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60179148001

METHOD BLANK: 1454196 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/04/14 15:40	

LABORATORY CONTROL SAMPLE: 1454197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1454198

Parameter	Units	60178861002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.28	2	2.0	87	90-110	M1

MATRIX SPIKE SAMPLE: 1454199

Parameter	Units	60178863001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	11.1	10	19.1	79	90-110	M1

SAMPLE DUPLICATE: 1454200

Parameter	Units	60178864001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	16.6	16.1	3	18	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

QC Batch: WETA/31190 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60179148001

METHOD BLANK: 1452321 Matrix: Water
Associated Lab Samples: 60179148001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/14 12:35	

LABORATORY CONTROL SAMPLE: 1452322

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: 1452323

Parameter	Units	60178552005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	2350	1250	3490	91	90-110	

MATRIX SPIKE SAMPLE: 1452325

Parameter	Units	60178629001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	641	250	841	80	90-110	M1

SAMPLE DUPLICATE: 1452324

Parameter	Units	60178960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	9.4J		25	

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REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF T1-022
Pace Project No.: 60179148

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60179148001	**T1-022**	EPA 200.7	MPRP/29147	EPA 200.7	ICP/21932
60179148001	**T1-022**	EPA 200.7	MPRP/29144	EPA 200.7	ICP/21933
60179148001	**T1-022**	EPA 245.1	MERP/8873	EPA 245.1	MERC/8830
60179148001	**T1-022**	EPA 245.1	MERP/8859	EPA 245.1	MERC/8814
60179148001	**T1-022**	EPA 625	OEXT/46412	EPA 625	MSSV/14918
60179148001	**T1-022**	EPA 624 Low	MSV/64769		
60179148001	**T1-022**	EPA 624 Low	MSV/64799		
60179148002	**TRIP BLANK**	EPA 624 Low	MSV/64769		
60179148002	**TRIP BLANK**	EPA 624 Low	MSV/64799		
60179148001	**T1-022**	EPA 1664A	WET/50701		
60179148001	**T1-022**	EPA 1664A	WET/50702		
60179148001	**T1-022**	SM 2540D	WET/50678		
60179148001	**T1-022**	SM 4500-H+B	WET/50661		
60179148001	**T1-022**	SM 5210B	WET/50627	SM 5210B	WET/50719
60179148001	**T1-022**	EPA 350.1	WETA/31230		
60179148001	**T1-022**	EPA 410.4	WETA/31190		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60179148

60179148

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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: 1.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: CW 10/1/14

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	13. Initial pH of BP3N=6.0 added 2.5mL of HNO3 final pH = 2.5
Includes date/time/ID/analyses Matrix: WT		Initial pH of BP3S=6.0 added 1.0 mL of H2SO4 for a final pH of 2.5 CW 10/1/14
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 CW / Lot # of added preservative 12513-37-10, 12707-19-8
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: MN

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/1/14

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

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)	60179148
1	TI-022 BP3N BP3S BP3U	OT	G	9/30/14	1004				15	10	4	1	0	2(A)					X	X	X	X	X	X	X	X	X	X		5	1(DG9U) 2(BP2U) 3(A)	w/
2	TRIP BLANK								2	2															X						2(DG9U)	
3																																
4																																
5																																
6																															METALS LIST total & LF Dis:	
7																															Al,Sb,As,Be,Cd,Cr,	
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																															and Mercury	
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	FEI	9-30-14	12:20	327	9/30	1220				
SITE ADDRESS: BRIDGETON LF				La Wate PACE	10/1/14	0230	1.4	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: 9/30/14				