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

October 10, 2013

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

RE: Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154439001	**316-091**	Water	10/01/13 10:30	10/02/13 02:00
60154439002	**TRIP BLANK**	Water	10/01/13 10:30	10/02/13 02:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154439001	**316-091**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TDS	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154439002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Sample: 316-091 **Lab ID: 60154439001** Collected: 10/01/13 10:30 Received: 10/02/13 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	**7340**	ug/L	150	2	10/08/13 16:45	10/08/13 15:28	7429-90-5	
Antimony	**49.7**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:28	7440-36-0	
Arsenic	**808**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:28	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/08/13 16:45	10/08/13 15:32	7440-41-7	D3
Cadmium	**14.1**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:28	7440-43-9	
Chromium	**306**	ug/L	25.0	5	10/08/13 16:45	10/08/13 15:32	7440-47-3	
Cobalt	**46.2**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:28	7440-48-4	
Copper	ND	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:28	7440-50-8	D3
Iron	**775000**	ug/L	100	2	10/08/13 16:45	10/08/13 15:28	7439-89-6	
Lead	**156**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:28	7439-92-1	
Nickel	**107**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:28	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/08/13 16:45	10/08/13 15:32	7782-49-2	
Silver	ND	ug/L	14.0	2	10/08/13 16:45	10/08/13 15:28	7440-22-4	
Thallium	ND	ug/L	100	5	10/08/13 16:45	10/08/13 15:32	7440-28-0	
Zinc	**14400**	ug/L	1000	20	10/08/13 16:45	10/08/13 15:35	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4100**	ug/L	150	2	10/08/13 12:00	10/09/13 11:19	7429-90-5	
Antimony, Dissolved	**56.8**	ug/L	50.0	5	10/08/13 12:00	10/09/13 11:36	7440-36-0	D9
Arsenic, Dissolved	**718**	ug/L	50.0	5	10/08/13 12:00	10/09/13 11:36	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/08/13 12:00	10/09/13 11:19	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/08/13 12:00	10/09/13 11:36	7440-43-9	D3
Chromium, Dissolved	**286**	ug/L	25.0	5	10/08/13 12:00	10/09/13 11:36	7440-47-3	
Cobalt, Dissolved	**39.8**	ug/L	25.0	5	10/08/13 12:00	10/09/13 11:36	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/08/13 12:00	10/09/13 11:36	7440-50-8	
Iron, Dissolved	**638000**	ug/L	100	2	10/08/13 12:00	10/09/13 11:19	7439-89-6	M1
Lead, Dissolved	**68.2**	ug/L	25.0	5	10/08/13 12:00	10/09/13 11:36	7439-92-1	
Nickel, Dissolved	**108**	ug/L	25.0	5	10/08/13 12:00	10/09/13 11:36	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/08/13 12:00	10/09/13 11:36	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/08/13 12:00	10/09/13 11:36	7440-22-4	M1,R1
Thallium, Dissolved	ND	ug/L	100	5	10/08/13 12:00	10/09/13 11:36	7440-28-0	
Zinc, Dissolved	**13100**	ug/L	1000	20	10/08/13 12:00	10/09/13 11:40	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**6.1**	ug/L	0.20	1	10/04/13 09:30	10/04/13 14:05	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	10/08/13 12:30	10/09/13 12:53	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/04/13 00:00	10/07/13 11:52	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Sample: 316-091 **Lab ID: 60154439001** Collected: 10/01/13 10:30 Received: 10/02/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	87-86-5	
Phenol	**8690**	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 11:52	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	80	%	33-120	2	10/04/13 00:00	10/07/13 11:52	4165-60-0	
2-Fluorobiphenyl (S)	57	%	39-120	2	10/04/13 00:00	10/07/13 11:52	321-60-8	
Terphenyl-d14 (S)	59	%	45-120	2	10/04/13 00:00	10/07/13 11:52	1718-51-0	
Phenol-d6 (S)	26	%	11-120	2	10/04/13 00:00	10/07/13 11:52	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	2	10/04/13 00:00	10/07/13 11:52	367-12-4	
2,4,6-Tribromophenol (S)	64	%	39-120	2	10/04/13 00:00	10/07/13 11:52	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/04/13 12:53	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/04/13 12:53	75-27-4	
Bromoform	ND	ug/L	200	200		10/04/13 12:53	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/04/13 12:53	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/04/13 12:53	56-23-5	
Chloroethane	ND	ug/L	200	200		10/04/13 12:53	75-00-3	
Chloroform	ND	ug/L	200	200		10/04/13 12:53	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/04/13 12:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/04/13 12:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 12:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 12:53	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/04/13 12:53	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/04/13 12:53	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/04/13 12:53	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/04/13 12:53	127-18-4	
Toluene	ND	ug/L	200	200		10/04/13 12:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/04/13 12:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/04/13 12:53	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/04/13 12:53	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/04/13 12:53	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/04/13 12:53	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		10/04/13 12:53	460-00-4	D3,HS
Toluene-d8 (S)	100	%	80-120	200		10/04/13 12:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		10/04/13 12:53	17060-07-0	
Preservation pH	**7.0**		1.0	200		10/04/13 12:53		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**401**	mg/L	5.0	1		10/03/13 07:52		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/08/13 07:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Sample: 316-091 **Lab ID: 60154439001** Collected: 10/01/13 10:30 Received: 10/02/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1660**	mg/L	5.0	1		10/08/13 10:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		10/02/13 15:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**34300**	mg/L	2.0	1	10/03/13 09:01	10/08/13 07:18		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**696**	mg/L	20.0	200		10/07/13 11:26	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**79500**	mg/L	10000	1000		10/03/13 17:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Sample: TRIP BLANK **Lab ID: 60154439002** Collected: 10/01/13 10:30 Received: 10/02/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/04/13 13:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/04/13 13:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/04/13 13:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/04/13 13:14	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/04/13 13:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/04/13 13:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/04/13 13:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/04/13 13:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/04/13 13:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 13:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 13:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/04/13 13:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/04/13 13:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/04/13 13:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/04/13 13:14	127-18-4	
Toluene	ND	ug/L	1.0	1		10/04/13 13:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/04/13 13:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/04/13 13:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/04/13 13:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/04/13 13:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/04/13 13:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		10/04/13 13:14	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		10/04/13 13:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		10/04/13 13:14	17060-07-0	
Preservation pH	**7.0**		1.0	1		10/04/13 13:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: MERP/7770
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154439001

METHOD BLANK: 1265729 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/04/13 13:21	

LABORATORY CONTROL SAMPLE: 1265730

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: 1265731 1265732

Parameter	Units	60154442001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.5	4.8	91	96	70-130	6	20	

MATRIX SPIKE SAMPLE: 1265733

Parameter	Units	60154547002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	92	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: MERP/7783
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154439001

METHOD BLANK: 1267652 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/09/13 12:49	

LABORATORY CONTROL SAMPLE: 1267653

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: 1267654 1267655

Parameter	Units	60154559001 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	2.3	0.59	45	12	70-130	117	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: MPRP/24565
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154439001

METHOD BLANK: 1265769 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/08/13 15:25	
Antimony	ug/L	ND	10.0	10/08/13 15:25	
Arsenic	ug/L	ND	10.0	10/08/13 15:25	
Beryllium	ug/L	ND	1.0	10/08/13 15:25	
Cadmium	ug/L	ND	5.0	10/08/13 15:25	
Chromium	ug/L	ND	5.0	10/08/13 15:25	
Cobalt	ug/L	ND	5.0	10/08/13 15:25	
Copper	ug/L	ND	10.0	10/08/13 15:25	
Iron	ug/L	ND	50.0	10/08/13 15:25	
Lead	ug/L	ND	5.0	10/08/13 15:25	
Nickel	ug/L	ND	5.0	10/08/13 15:25	
Selenium	ug/L	ND	15.0	10/08/13 15:25	
Silver	ug/L	ND	7.0	10/08/13 15:25	
Thallium	ug/L	ND	20.0	10/08/13 15:25	
Zinc	ug/L	ND	50.0	10/08/13 15:25	

LABORATORY CONTROL SAMPLE: 1265770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9330	93	85-115	
Antimony	ug/L	1000	932	93	85-115	
Arsenic	ug/L	1000	920	92	85-115	
Beryllium	ug/L	1000	912	91	85-115	
Cadmium	ug/L	1000	929	93	85-115	
Chromium	ug/L	1000	973	97	85-115	
Cobalt	ug/L	1000	966	97	85-115	
Copper	ug/L	1000	923	92	85-115	
Iron	ug/L	10000	9030	90	85-115	
Lead	ug/L	1000	981	98	85-115	
Nickel	ug/L	1000	987	99	85-115	
Selenium	ug/L	1000	952	95	85-115	
Silver	ug/L	500	452	90	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	995	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10700	10000	10000	24200	25500	134	148	70-130	5	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	46.4	1000	1000	850	801	80	75	70-130	6	7	
Arsenic	ug/L	725	1000	1000	1880	1860	115	114	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	972	950	97	95	70-130	2	7	
Cadmium	ug/L	16.7	1000	1000	1100	1070	108	105	70-130	3	10	
Chromium	ug/L	318	1000	1000	1280	1280	97	96	70-130	0	10	
Cobalt	ug/L	52.2	1000	1000	971	946	92	89	70-130	3	6	
Copper	ug/L	ND	1000	1000	1040	1000	103	100	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1010000	1020000	-30	70	70-130	1	10	
Lead	ug/L	203	1000	1000	1040	1020	84	82	70-130	2	10	
Nickel	ug/L	120	1000	1000	1050	1020	93	90	70-130	3	10	
Selenium	ug/L	ND	1000	1000	1050	1050	104	104	70-130	0	10	
Silver	ug/L	ND	500	500	42.2	28.1	8	5	70-130	40	10	M1,R1
Thallium	ug/L	ND	1000	1000	796	771	80	77	70-130	3	6	
Zinc	ug/L	15000	1000	1000	15700	15900	78	91	70-130	1	11	M1

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: MPRP/24614
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154439001

METHOD BLANK: 1267529 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/09/13 11:13	
Antimony, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Arsenic, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Beryllium, Dissolved	ug/L	ND	1.0	10/09/13 11:13	
Cadmium, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Chromium, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Cobalt, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Copper, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Iron, Dissolved	ug/L	ND	50.0	10/09/13 11:13	
Lead, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Nickel, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Selenium, Dissolved	ug/L	ND	15.0	10/09/13 11:13	
Silver, Dissolved	ug/L	ND	7.0	10/09/13 11:13	
Thallium, Dissolved	ug/L	ND	20.0	10/09/13 11:13	
Zinc, Dissolved	ug/L	ND	50.0	10/09/13 11:13	

LABORATORY CONTROL SAMPLE: 1267530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	99	85-115	
Antimony, Dissolved	ug/L	1000	985	99	85-115	
Arsenic, Dissolved	ug/L	1000	941	94	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	977	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	971	97	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	970	97	85-115	
Silver, Dissolved	ug/L	500	471	94	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	979	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267531 1267532

Parameter	Units	60154439001 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	4100	10000	10000	14300	14400	102	103	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267531 1267532

Parameter	Units	60154439001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	56.8	1000	1000	1010	1020	95	96	70-130	1	7	
Arsenic, Dissolved	ug/L	718	1000	1000	1720	1750	100	103	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	950	946	95	95	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1010	1030	101	103	70-130	2	10	
Chromium, Dissolved	ug/L	286	1000	1000	1210	1230	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	39.8	1000	1000	968	984	93	94	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	987	997	99	100	70-130	1	11	
Iron, Dissolved	ug/L	638000	10000	10000	620000	615000	-178	-226	70-130	1	10	M1
Lead, Dissolved	ug/L	68.2	1000	1000	938	952	87	88	70-130	2	10	
Nickel, Dissolved	ug/L	108	1000	1000	1040	1060	94	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1120	109	112	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	45.1	54.6	9	11	70-130	19	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	788	814	79	81	70-130	3	6	
Zinc, Dissolved	ug/L	13100	1000	1000	13700	13700	63	58	70-130	0	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: MSV/56776
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154439001, 60154439002

METHOD BLANK: 1265750
Matrix: Water
Associated Lab Samples: 60154439001, 60154439002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/04/13 09:40	
Benzene	ug/L	ND	1.0	10/04/13 09:40	
Bromodichloromethane	ug/L	ND	1.0	10/04/13 09:40	
Bromoform	ug/L	ND	1.0	10/04/13 09:40	
Bromomethane	ug/L	ND	5.0	10/04/13 09:40	
Carbon tetrachloride	ug/L	ND	1.0	10/04/13 09:40	
Chloroethane	ug/L	ND	1.0	10/04/13 09:40	
Chloroform	ug/L	ND	1.0	10/04/13 09:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Ethylbenzene	ug/L	ND	1.0	10/04/13 09:40	
Methylene chloride	ug/L	ND	1.0	10/04/13 09:40	
Tetrachloroethene	ug/L	ND	1.0	10/04/13 09:40	
Toluene	ug/L	ND	1.0	10/04/13 09:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Trichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Vinyl chloride	ug/L	ND	1.0	10/04/13 09:40	
Xylene (Total)	ug/L	ND	3.0	10/04/13 09:40	
1,2-Dichloroethane-d4 (S)	%	101	80-120	10/04/13 09:40	
4-Bromofluorobenzene (S)	%	97	80-120	10/04/13 09:40	
Toluene-d8 (S)	%	100	80-120	10/04/13 09:40	

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	90	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.0	90	59-138	
1,1,2-Trichloroethane	ug/L	20	19.3	97	69-127	
1,2-Dichloroethane	ug/L	20	19.5	98	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	19.6	98	73-129	
Bromodichloromethane	ug/L	20	18.4	92	63-129	
Bromoform	ug/L	20	16.4	82	52-123	
Bromomethane	ug/L	20	9.0	45	10-160	
Carbon tetrachloride	ug/L	20	20.0	100	70-140	
Chloroethane	ug/L	20	19.1	96	42-160	
Chloroform	ug/L	20	18.2	91	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.2	96	66-133	
Methylene chloride	ug/L	20	24.7	123	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.5	98	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	19.5	97	71-130	
Vinyl chloride	ug/L	20	15.6	78	41-160	
Xylene (Total)	ug/L	60	56.1	94	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1265752

Parameter	Units	60154302001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4160	104	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3380	85	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3520	86	18-147	
Benzene	ug/L	ND	4000	3930	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3130	78	45-133	
Bromomethane	ug/L	ND	4000	1690	41	10-160	
Carbon tetrachloride	ug/L	ND	4000	4010	100	70-140	
Chloroethane	ug/L	ND	4000	3560	89	14-160	
Chloroform	ug/L	ND	4000	3940	99	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3980	100	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	ND	4000	3270	82	15-156	
Tetrachloroethene	ug/L	ND	4000	3760	94	64-148	
Toluene	ug/L	ND	4000	3780	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3530	88	54-156	
Trichloroethene	ug/L	ND	4000	3820	95	71-157	
Vinyl chloride	ug/L	ND	4000	2920	73	10-160	
Xylene (Total)	ug/L	ND	12000	10700	89	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: OEXT/40825
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60154439001

METHOD BLANK: 1265590 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/07/13 08:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/07/13 08:44	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/07/13 08:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/07/13 08:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/07/13 08:44	
Hexachloroethane	ug/L	ND	5.0	10/07/13 08:44	
Naphthalene	ug/L	ND	5.0	10/07/13 08:44	
Nitrobenzene	ug/L	ND	5.0	10/07/13 08:44	
Pentachlorophenol	ug/L	ND	5.0	10/07/13 08:44	
Phenol	ug/L	ND	5.0	10/07/13 08:44	
2,4,6-Tribromophenol (S)	%	74	39-120	10/07/13 08:44	
2-Fluorobiphenyl (S)	%	73	39-120	10/07/13 08:44	
2-Fluorophenol (S)	%	48	17-120	10/07/13 08:44	
Nitrobenzene-d5 (S)	%	70	33-120	10/07/13 08:44	
Phenol-d6 (S)	%	31	11-120	10/07/13 08:44	
Terphenyl-d14 (S)	%	79	45-120	10/07/13 08:44	

LABORATORY CONTROL SAMPLE: 1265591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	29.9	60	46-120	
2,4,6-Trichlorophenol	ug/L	50	30.1	60	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	44.9	90	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.5	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	48.9	49	24-120	
Hexachloroethane	ug/L	50	26.1	52	43-113	
Naphthalene	ug/L	50	29.7	59	48-120	
Nitrobenzene	ug/L	50	30.9	62	48-120	
Pentachlorophenol	ug/L	50	30.3	61	47-120	
Phenol	ug/L	50	12.8	26	16-112	
2,4,6-Tribromophenol (S)	%			66	39-120	
2-Fluorobiphenyl (S)	%			60	39-120	
2-Fluorophenol (S)	%			36	17-120	
Nitrobenzene-d5 (S)	%			58	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			63	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

MATRIX SPIKE SAMPLE: 1265592

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3180	64	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3450	69	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4980J	100	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3200	64	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5620	56	11-120	
Hexachloroethane	ug/L	ND	5000	3160	63	40-113	
Naphthalene	ug/L	ND	5000	3410	68	45-120	
Nitrobenzene	ug/L	ND	5000	3290	66	38-120	
Pentachlorophenol	ug/L	ND	5000	3960	79	43-135	
Phenol	ug/L	8690	5000	11300	53	13-112	
2,4,6-Tribromophenol (S)	%				73	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				65	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WET/43775
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154439001

METHOD BLANK: 1264738 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/03/13 07:50	

LABORATORY CONTROL SAMPLE: 1264739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.6	97	78-114	

MATRIX SPIKE SAMPLE: 1264742

Parameter	Units	60154427001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	37.3	90	78-114	

SAMPLE DUPLICATE: 1264743

Parameter	Units	60154428003 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1.8J	ND		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WET/43850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154439001

METHOD BLANK: 1267434 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/08/13 07:33	

LABORATORY CONTROL SAMPLE: 1267435

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: 1267436

Parameter	Units	60154093007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	22.7	103	64-132	

SAMPLE DUPLICATE: 1267439

Parameter	Units	60154694001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WET/43855 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154439001

METHOD BLANK: 1267476 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/08/13 10:29	

SAMPLE DUPLICATE: 1267477

Parameter	Units	60154427001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1267478

Parameter	Units	60154436004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WET/43763
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154439001

SAMPLE DUPLICATE: 1264418

Parameter	Units	60154471001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WET/43778 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154439001

METHOD BLANK: 1264773 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/08/13 07:09	

LABORATORY CONTROL SAMPLE: 1264774

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	190	96	85-115	

SAMPLE DUPLICATE: 1264775

Parameter	Units	60154439001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	34300	30700	11	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WETA/26515
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154439001

METHOD BLANK: 1267012 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/07/13 11:24	

LABORATORY CONTROL SAMPLE: 1267013

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

MATRIX SPIKE SAMPLE: 1267014

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	696	400	1070	94	90-110	

SAMPLE DUPLICATE: 1267015

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	714	713	0	18	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

QC Batch: WETA/26451
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60154439001

METHOD BLANK: 1264015 Matrix: Water
Associated Lab Samples: 60154439001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/03/13 17:29	

LABORATORY CONTROL SAMPLE: 1264016

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.9	94	90-110	

MATRIX SPIKE SAMPLE: 1264017

Parameter	Units	60154298001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65800	50000	114000	96	90-110	

MATRIX SPIKE SAMPLE: 1264018

Parameter	Units	60154301001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80300	50000	133000	106	90-110	

MATRIX SPIKE SAMPLE: 1264019

Parameter	Units	60154302001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	76700	50000	125000	97	90-110	

MATRIX SPIKE SAMPLE: 1264020

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	79500	50000	126000	93	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-091
Pace Project No.: 60154439

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154439001	**316-091**	EPA 200.7	MPRP/24565	EPA 200.7	ICP/19146
60154439001	**316-091**	EPA 200.7	MPRP/24614	EPA 200.7	ICP/19152
60154439001	**316-091**	EPA 245.1	MERP/7770	EPA 245.1	MERC/7728
60154439001	**316-091**	EPA 245.1	MERP/7783	EPA 245.1	MERC/7740
60154439001	**316-091**	EPA 625	OEXT/40825	EPA 625	MSSV/12944
60154439001	**316-091**	EPA 624 Low	MSV/56776		
60154439002	**TRIP BLANK**	EPA 624 Low	MSV/56776		
60154439001	**316-091**	EPA 1664A	WET/43775		
60154439001	**316-091**	EPA 1664A	WET/43850		
60154439001	**316-091**	SM 2540D	WET/43855		
60154439001	**316-091**	SM 4500-H+B	WET/43763		
60154439001	**316-091**	SM 5210B	WET/43778	SM 5210B	WET/43852
60154439001	**316-091**	EPA 350.1	WETA/26515		
60154439001	**316-091**	EPA 410.4	WETA/26451		

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Sample Condition Upon Receipt

WO# : 60154439

60154439

Client Name: BARR

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ 2ipl

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 ☒ 2ipl

Thermometer Used: T-112 / T-194 Type of Ice: (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.9

Date and initials of person examining contents: 10/2

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	14. Add hno3 to BP3N 316-0915.0/3.5 Add h2so4 to BP3S 316-09150/2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: S — Lot # of added preservative: 12516 12510
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 20-Sep		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	16. 525 VOA @ 316-091 leachate → ADD HS
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: MO

Footnote

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/3/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No. PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	60154439
1	316-091 2(BP2U) BP3U, BP3N, BP3S 5.0 5.0	OT	G	10/01/13	1030				16	11	1	1	3	5 (VG9U)					X	X	X	X	X	X	X	X	X	X	X	3(AG1H)	3(AG1U) LOG samples as OQS 01
2	TRIP BLANK 2(VG9U)TB								2	2																X					02
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Powell Asbtt / FEI INC.	10-1-13	2:43pm	[illegible] #726	10-1-13	2:43pm				
SITE ADDRESS: BRIDGETON LF				Shadda MCG/PSA	10/2	0200	1.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-01-13

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

October 10, 2013

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

RE: Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154559001	**316-092**	Water	10/02/13 10:30	10/03/13 01:05
60154559002	**TRIP BLANK**	Water	10/02/13 10:30	10/03/13 01:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154559001	**316-092**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	TDS	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154559002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Sample: 316-092 **Lab ID: 60154559001** Collected: 10/02/13 10:30 Received: 10/03/13 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**11200**	ug/L	150	2	10/08/13 16:45	10/08/13 15:46	7429-90-5	
Antimony	**52.9**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:46	7440-36-0	
Arsenic	**736**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:46	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/08/13 16:45	10/09/13 16:55	7440-41-7	D3
Cadmium	**17.2**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:46	7440-43-9	
Chromium	**329**	ug/L	25.0	5	10/08/13 16:45	10/08/13 15:49	7440-47-3	
Cobalt	**51.4**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:46	7440-48-4	
Copper	ND	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:46	7440-50-8	D3
Iron	**925000**	ug/L	250	5	10/08/13 16:45	10/09/13 16:55	7439-89-6	
Lead	**201**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:46	7439-92-1	
Nickel	**117**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:46	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/08/13 16:45	10/08/13 15:49	7782-49-2	
Silver	ND	ug/L	14.0	2	10/08/13 16:45	10/08/13 15:46	7440-22-4	
Thallium	ND	ug/L	100	5	10/08/13 16:45	10/08/13 15:49	7440-28-0	D3
Zinc	**15000**	ug/L	1000	20	10/08/13 16:45	10/08/13 15:53	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3820**	ug/L	150	2	10/08/13 12:00	10/09/13 12:09	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/08/13 12:00	10/09/13 12:12	7440-36-0	
Arsenic, Dissolved	**613**	ug/L	50.0	5	10/08/13 12:00	10/09/13 12:12	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/08/13 12:00	10/09/13 12:09	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/08/13 12:00	10/09/13 12:12	7440-43-9	D3
Chromium, Dissolved	**260**	ug/L	25.0	5	10/08/13 12:00	10/09/13 12:12	7440-47-3	
Cobalt, Dissolved	**36.7**	ug/L	25.0	5	10/08/13 12:00	10/09/13 12:12	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/08/13 12:00	10/09/13 12:12	7440-50-8	
Iron, Dissolved	**594000**	ug/L	100	2	10/08/13 12:00	10/09/13 12:09	7439-89-6	
Lead, Dissolved	**60.0**	ug/L	25.0	5	10/08/13 12:00	10/09/13 12:12	7439-92-1	
Nickel, Dissolved	**101**	ug/L	25.0	5	10/08/13 12:00	10/09/13 12:12	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/08/13 12:00	10/09/13 12:12	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/08/13 12:00	10/09/13 12:12	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/08/13 12:00	10/09/13 12:12	7440-28-0	
Zinc, Dissolved	**12800**	ug/L	1000	20	10/08/13 12:00	10/09/13 12:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**9.9**	ug/L	0.20	1	10/04/13 09:30	10/04/13 13:43	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	10/08/13 12:30	10/09/13 12:55	7439-97-6	M1,R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/04/13 00:00	10/07/13 12:13	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Sample: 316-092 **Lab ID: 60154559001** Collected: 10/02/13 10:30 Received: 10/03/13 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	87-86-5	
Phenol	**9240**	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/04/13 00:00	10/07/13 12:13	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	45	%	33-120	2	10/04/13 00:00	10/07/13 12:13	4165-60-0	
2-Fluorobiphenyl (S)	43	%	39-120	2	10/04/13 00:00	10/07/13 12:13	321-60-8	
Terphenyl-d14 (S)	44	%	45-120	2	10/04/13 00:00	10/07/13 12:13	1718-51-0	S0
Phenol-d6 (S)	20	%	11-120	2	10/04/13 00:00	10/07/13 12:13	13127-88-3	
2-Fluorophenol (S)	28	%	17-120	2	10/04/13 00:00	10/07/13 12:13	367-12-4	
2,4,6-Tribromophenol (S)	49	%	39-120	2	10/04/13 00:00	10/07/13 12:13	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/04/13 14:40	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/04/13 14:40	75-27-4	
Bromoform	ND	ug/L	200	200		10/04/13 14:40	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/04/13 14:40	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/04/13 14:40	56-23-5	
Chloroethane	ND	ug/L	200	200		10/04/13 14:40	75-00-3	
Chloroform	ND	ug/L	200	200		10/04/13 14:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/04/13 14:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/04/13 14:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 14:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 14:40	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/04/13 14:40	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/04/13 14:40	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/04/13 14:40	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/04/13 14:40	127-18-4	
Toluene	ND	ug/L	200	200		10/04/13 14:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/04/13 14:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/04/13 14:40	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/04/13 14:40	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/04/13 14:40	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/04/13 14:40	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		10/04/13 14:40	460-00-4	D3,HS
Toluene-d8 (S)	101	%	80-120	200		10/04/13 14:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		10/04/13 14:40	17060-07-0	
Preservation pH	**7.0**		1.0	200		10/04/13 14:40		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**515**	mg/L	5.0	1		10/04/13 08:58		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/08/13 07:36		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Sample: 316-092 **Lab ID: 60154559001** Collected: 10/02/13 10:30 Received: 10/03/13 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1600**	mg/L	5.0	1		10/09/13 09:56		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		10/03/13 12:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30500**	mg/L	2.0	1	10/04/13 09:02	10/09/13 14:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**703**	mg/L	20.0	200		10/07/13 11:31	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**64300**	mg/L	10000	1000		10/09/13 17:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Sample: TRIP BLANK **Lab ID: 60154559002** Collected: 10/02/13 10:30 Received: 10/03/13 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/04/13 15:01	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/04/13 15:01	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/04/13 15:01	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/04/13 15:01	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/04/13 15:01	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/04/13 15:01	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/04/13 15:01	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/04/13 15:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/04/13 15:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 15:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 15:01	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/04/13 15:01	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/04/13 15:01	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/04/13 15:01	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/04/13 15:01	127-18-4	
Toluene	ND	ug/L	1.0	1		10/04/13 15:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/04/13 15:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/04/13 15:01	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/04/13 15:01	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/04/13 15:01	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/04/13 15:01	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/04/13 15:01	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		10/04/13 15:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	87	%	80-120	1		10/04/13 15:01	17060-07-0	
Preservation pH	**7.0**		1.0	1		10/04/13 15:01		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: MERP/7770
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154559001

METHOD BLANK: 1265729 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/04/13 13:21	

LABORATORY CONTROL SAMPLE: 1265730

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: 1265731 1265732

Parameter	Units	60154442001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.5	4.8	91	96	70-130	6	20	

MATRIX SPIKE SAMPLE: 1265733

Parameter	Units	60154547002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	92	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: MERP/7783
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154559001

METHOD BLANK: 1267652 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/09/13 12:49	

LABORATORY CONTROL SAMPLE: 1267653

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: 1267654 1267655

Parameter	Units	60154559001 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	2.3	0.59	45	12	70-130	117	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: MPRP/24565
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154559001

METHOD BLANK: 1265769 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/08/13 15:25	
Antimony	ug/L	ND	10.0	10/08/13 15:25	
Arsenic	ug/L	ND	10.0	10/08/13 15:25	
Beryllium	ug/L	ND	1.0	10/08/13 15:25	
Cadmium	ug/L	ND	5.0	10/08/13 15:25	
Chromium	ug/L	ND	5.0	10/08/13 15:25	
Cobalt	ug/L	ND	5.0	10/08/13 15:25	
Copper	ug/L	ND	10.0	10/08/13 15:25	
Iron	ug/L	ND	50.0	10/08/13 15:25	
Lead	ug/L	ND	5.0	10/08/13 15:25	
Nickel	ug/L	ND	5.0	10/08/13 15:25	
Selenium	ug/L	ND	15.0	10/08/13 15:25	
Silver	ug/L	ND	7.0	10/08/13 15:25	
Thallium	ug/L	ND	20.0	10/08/13 15:25	
Zinc	ug/L	ND	50.0	10/08/13 15:25	

LABORATORY CONTROL SAMPLE: 1265770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9330	93	85-115	
Antimony	ug/L	1000	932	93	85-115	
Arsenic	ug/L	1000	920	92	85-115	
Beryllium	ug/L	1000	912	91	85-115	
Cadmium	ug/L	1000	929	93	85-115	
Chromium	ug/L	1000	973	97	85-115	
Cobalt	ug/L	1000	966	97	85-115	
Copper	ug/L	1000	923	92	85-115	
Iron	ug/L	10000	9030	90	85-115	
Lead	ug/L	1000	981	98	85-115	
Nickel	ug/L	1000	987	99	85-115	
Selenium	ug/L	1000	952	95	85-115	
Silver	ug/L	500	452	90	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	995	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10700	10000	10000	24200	25500	134	148	70-130	5	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	46.4	1000	1000	850	801	80	75	70-130	6	7	
Arsenic	ug/L	725	1000	1000	1880	1860	115	114	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	972	950	97	95	70-130	2	7	
Cadmium	ug/L	16.7	1000	1000	1100	1070	108	105	70-130	3	10	
Chromium	ug/L	318	1000	1000	1280	1280	97	96	70-130	0	10	
Cobalt	ug/L	52.2	1000	1000	971	946	92	89	70-130	3	6	
Copper	ug/L	ND	1000	1000	1040	1000	103	100	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1010000	1020000	-30	70	70-130	1	10	
Lead	ug/L	203	1000	1000	1040	1020	84	82	70-130	2	10	
Nickel	ug/L	120	1000	1000	1050	1020	93	90	70-130	3	10	
Selenium	ug/L	ND	1000	1000	1050	1050	104	104	70-130	0	10	
Silver	ug/L	ND	500	500	42.2	28.1	8	5	70-130	40	10	M1,R1
Thallium	ug/L	ND	1000	1000	796	771	80	77	70-130	3	6	
Zinc	ug/L	15000	1000	1000	15700	15900	78	91	70-130	1	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: MPRP/24614
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154559001

METHOD BLANK: 1267529 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/09/13 11:13	
Antimony, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Arsenic, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Beryllium, Dissolved	ug/L	ND	1.0	10/09/13 11:13	
Cadmium, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Chromium, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Cobalt, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Copper, Dissolved	ug/L	ND	10.0	10/09/13 11:13	
Iron, Dissolved	ug/L	ND	50.0	10/09/13 11:13	
Lead, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Nickel, Dissolved	ug/L	ND	5.0	10/09/13 11:13	
Selenium, Dissolved	ug/L	ND	15.0	10/09/13 11:13	
Silver, Dissolved	ug/L	ND	7.0	10/09/13 11:13	
Thallium, Dissolved	ug/L	ND	20.0	10/09/13 11:13	
Zinc, Dissolved	ug/L	ND	50.0	10/09/13 11:13	

LABORATORY CONTROL SAMPLE: 1267530

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	99	85-115	
Antimony, Dissolved	ug/L	1000	985	99	85-115	
Arsenic, Dissolved	ug/L	1000	941	94	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	977	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	971	97	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	970	97	85-115	
Silver, Dissolved	ug/L	500	471	94	85-115	
Thallium, Dissolved	ug/L	1000	1020	102	85-115	
Zinc, Dissolved	ug/L	1000	979	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267531 1267532

Parameter	Units	60154439001 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	4100	10000	10000	14300	14400	102	103	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267531 1267532

Parameter	Units	60154439001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	56.8	1000	1000	1010	1020	95	96	70-130	1	7	
Arsenic, Dissolved	ug/L	718	1000	1000	1720	1750	100	103	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	950	946	95	95	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1010	1030	101	103	70-130	2	10	
Chromium, Dissolved	ug/L	286	1000	1000	1210	1230	93	94	70-130	1	10	
Cobalt, Dissolved	ug/L	39.8	1000	1000	968	984	93	94	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	987	997	99	100	70-130	1	11	
Iron, Dissolved	ug/L	638000	10000	10000	620000	615000	-178	-226	70-130	1	10	M1
Lead, Dissolved	ug/L	68.2	1000	1000	938	952	87	88	70-130	2	10	
Nickel, Dissolved	ug/L	108	1000	1000	1040	1060	94	95	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1120	109	112	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	45.1	54.6	9	11	70-130	19	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	788	814	79	81	70-130	3	6	
Zinc, Dissolved	ug/L	13100	1000	1000	13700	13700	63	58	70-130	0	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: MSV/56776
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154559001, 60154559002

METHOD BLANK: 1265750
Matrix: Water
Associated Lab Samples: 60154559001, 60154559002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/04/13 09:40	
Benzene	ug/L	ND	1.0	10/04/13 09:40	
Bromodichloromethane	ug/L	ND	1.0	10/04/13 09:40	
Bromoform	ug/L	ND	1.0	10/04/13 09:40	
Bromomethane	ug/L	ND	5.0	10/04/13 09:40	
Carbon tetrachloride	ug/L	ND	1.0	10/04/13 09:40	
Chloroethane	ug/L	ND	1.0	10/04/13 09:40	
Chloroform	ug/L	ND	1.0	10/04/13 09:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Ethylbenzene	ug/L	ND	1.0	10/04/13 09:40	
Methylene chloride	ug/L	ND	1.0	10/04/13 09:40	
Tetrachloroethene	ug/L	ND	1.0	10/04/13 09:40	
Toluene	ug/L	ND	1.0	10/04/13 09:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Trichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Vinyl chloride	ug/L	ND	1.0	10/04/13 09:40	
Xylene (Total)	ug/L	ND	3.0	10/04/13 09:40	
1,2-Dichloroethane-d4 (S)	%	101	80-120	10/04/13 09:40	
4-Bromofluorobenzene (S)	%	97	80-120	10/04/13 09:40	
Toluene-d8 (S)	%	100	80-120	10/04/13 09:40	

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	90	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.0	90	59-138	
1,1,2-Trichloroethane	ug/L	20	19.3	97	69-127	
1,2-Dichloroethane	ug/L	20	19.5	98	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	19.6	98	73-129	
Bromodichloromethane	ug/L	20	18.4	92	63-129	
Bromoform	ug/L	20	16.4	82	52-123	
Bromomethane	ug/L	20	9.0	45	10-160	
Carbon tetrachloride	ug/L	20	20.0	100	70-140	
Chloroethane	ug/L	20	19.1	96	42-160	
Chloroform	ug/L	20	18.2	91	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.2	96	66-133	
Methylene chloride	ug/L	20	24.7	123	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.5	98	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	19.5	97	71-130	
Vinyl chloride	ug/L	20	15.6	78	41-160	
Xylene (Total)	ug/L	60	56.1	94	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1265752

Parameter	Units	60154302001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4160	104	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3380	85	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3520	86	18-147	
Benzene	ug/L	ND	4000	3930	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3130	78	45-133	
Bromomethane	ug/L	ND	4000	1690	41	10-160	
Carbon tetrachloride	ug/L	ND	4000	4010	100	70-140	
Chloroethane	ug/L	ND	4000	3560	89	14-160	
Chloroform	ug/L	ND	4000	3940	99	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3980	100	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	ND	4000	3270	82	15-156	
Tetrachloroethene	ug/L	ND	4000	3760	94	64-148	
Toluene	ug/L	ND	4000	3780	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3530	88	54-156	
Trichloroethene	ug/L	ND	4000	3820	95	71-157	
Vinyl chloride	ug/L	ND	4000	2920	73	10-160	
Xylene (Total)	ug/L	ND	12000	10700	89	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: OEXT/40825
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60154559001

METHOD BLANK: 1265590 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/07/13 08:44	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/07/13 08:44	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/07/13 08:44	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/07/13 08:44	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/07/13 08:44	
Hexachloroethane	ug/L	ND	5.0	10/07/13 08:44	
Naphthalene	ug/L	ND	5.0	10/07/13 08:44	
Nitrobenzene	ug/L	ND	5.0	10/07/13 08:44	
Pentachlorophenol	ug/L	ND	5.0	10/07/13 08:44	
Phenol	ug/L	ND	5.0	10/07/13 08:44	
2,4,6-Tribromophenol (S)	%	74	39-120	10/07/13 08:44	
2-Fluorobiphenyl (S)	%	73	39-120	10/07/13 08:44	
2-Fluorophenol (S)	%	48	17-120	10/07/13 08:44	
Nitrobenzene-d5 (S)	%	70	33-120	10/07/13 08:44	
Phenol-d6 (S)	%	31	11-120	10/07/13 08:44	
Terphenyl-d14 (S)	%	79	45-120	10/07/13 08:44	

LABORATORY CONTROL SAMPLE: 1265591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	29.9	60	46-120	
2,4,6-Trichlorophenol	ug/L	50	30.1	60	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	44.9	90	40-133	
Hexachloro-1,3-butadiene	ug/L	50	29.5	59	44-116	
Hexachlorocyclopentadiene	ug/L	100	48.9	49	24-120	
Hexachloroethane	ug/L	50	26.1	52	43-113	
Naphthalene	ug/L	50	29.7	59	48-120	
Nitrobenzene	ug/L	50	30.9	62	48-120	
Pentachlorophenol	ug/L	50	30.3	61	47-120	
Phenol	ug/L	50	12.8	26	16-112	
2,4,6-Tribromophenol (S)	%			66	39-120	
2-Fluorobiphenyl (S)	%			60	39-120	
2-Fluorophenol (S)	%			36	17-120	
Nitrobenzene-d5 (S)	%			58	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			63	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

MATRIX SPIKE SAMPLE: 1265592

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3180	64	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3450	69	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4980J	100	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3200	64	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5620	56	11-120	
Hexachloroethane	ug/L	ND	5000	3160	63	40-113	
Naphthalene	ug/L	ND	5000	3410	68	45-120	
Nitrobenzene	ug/L	ND	5000	3290	66	38-120	
Pentachlorophenol	ug/L	ND	5000	3960	79	43-135	
Phenol	ug/L	8690	5000	11300	53	13-112	
2,4,6-Tribromophenol (S)	%				73	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				44	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				65	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WET/43799
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154559001

METHOD BLANK: 1265599 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/04/13 08:55	

LABORATORY CONTROL SAMPLE: 1265600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.3	103	78-114	

MATRIX SPIKE SAMPLE: 1265607

Parameter	Units	60154510002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	40.1	97	78-114	

SAMPLE DUPLICATE: 1265602

Parameter	Units	60154649002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	152	161	6	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WET/43850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154559001

METHOD BLANK: 1267434 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/08/13 07:33	

LABORATORY CONTROL SAMPLE: 1267435

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: 1267436

Parameter	Units	60154093007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	22.7	103	64-132	

SAMPLE DUPLICATE: 1267439

Parameter	Units	60154694001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WET/43896
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154559001

METHOD BLANK: 1268263
Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/09/13 09:56	

SAMPLE DUPLICATE: 1268264

Parameter	Units	60154559001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1600	1820	13	25	

SAMPLE DUPLICATE: 1268265

Parameter	Units	60154717009 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	106	98.0	8	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WET/43786
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154559001

SAMPLE DUPLICATE: 1265101

Parameter	Units	60154434002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.0	7.0	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WET/43798
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154559001

METHOD BLANK: 1265581 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/09/13 13:58	

LABORATORY CONTROL SAMPLE: 1265582

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	215	108	85-115	

SAMPLE DUPLICATE: 1265583

Parameter	Units	60154668002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	4120	4130	0	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WETA/26515
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154559001

METHOD BLANK: 1267012 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/07/13 11:24	

LABORATORY CONTROL SAMPLE: 1267013

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

MATRIX SPIKE SAMPLE: 1267014

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	696	400	1070	94	90-110	

SAMPLE DUPLICATE: 1267015

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	714	713	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

QC Batch: WETA/26543
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60154559001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154559001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-092
Pace Project No.: 60154559

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154559001	**316-092**	EPA 200.7	MPRP/24565	EPA 200.7	ICP/19146
60154559001	**316-092**	EPA 200.7	MPRP/24614	EPA 200.7	ICP/19152
60154559001	**316-092**	EPA 245.1	MERP/7770	EPA 245.1	MERC/7728
60154559001	**316-092**	EPA 245.1	MERP/7783	EPA 245.1	MERC/7740
60154559001	**316-092**	EPA 625	OEXT/40825	EPA 625	MSSV/12944
60154559001	**316-092**	EPA 624 Low	MSV/56776		
60154559002	**TRIP BLANK**	EPA 624 Low	MSV/56776		
60154559001	**316-092**	EPA 1664A	WET/43799		
60154559001	**316-092**	EPA 1664A	WET/43850		
60154559001	**316-092**	SM 2540D	WET/43896		
60154559001	**316-092**	SM 4500-H+B	WET/43786		
60154559001	**316-092**	SM 5210B	WET/43798	SM 5210B	WET/43906
60154559001	**316-092**	EPA 350.1	WETA/26515		
60154559001	**316-092**	EPA 410.4	WETA/26543		

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Sample Condition Upon Receipt

WO#: 60154559

60154559

Client Name: BREP

Optional
Proj Due Date:
Proj Name:

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

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-112 / T-194 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 4.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: S 10/3

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	Add HNO3 to 316-092 BP3N 5.0/4.0 Add H2SO3 to 316-092 BP2S
All containers needing preservation are found to be in compliance with EPA recommendation.	5/10/3 ☒Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed S / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sep 20		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	5 of 5 VOA (0649U) - 316-092 Only 16. FOOTNOTE BOXED ON HISTORICAL INSTRUCTIONS
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/3/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:	
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN	
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES	
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044	Regulatory Agency
Email To:	Purchase Order No. PO 3727110	Pace Quote Reference: 130426_7588	
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie	State / Location
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 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)

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)	60154559
1	316-092 BP3N, BP3S, BP3U (5.0 5.0)	OT	G	10/02/13	1030	2(AG1H)			16	11	1	1	3	2(BP2U)					X	X	X	X	X	X	X	X	X	X	X	3(AG..)		5(DG9U) LOG samples as OQS 01
2	TRIP BLANK 2(DG9U) TB								2	2																X						02
3																																
4																																
5																																
6																																METALS LIST total & LF Dis
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	JULIE CROAK/Julie Croak	10/2/13	1425	[signature] #776	10/2/13	1425				
SITE ADDRESS: BRIDGETON LF				Shandelle MC/PSA	10/3	0105	4.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-02-13

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

October 15, 2013

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

RE: Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Amended report revised 10/15/13 to correct the metals qualifier associated with Zinc for EPA 200.7.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154684001	**316-093**	Water	10/03/13 08:20	10/04/13 01:55
60154684002	**TRIP BLANK**	Water	10/03/13 08:20	10/04/13 01:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154684001	**316-093**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154684002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Sample: 316-093 **Lab ID: 60154684001** Collected: 10/03/13 08:20 Received: 10/04/13 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	**10700**	ug/L	150	2	10/08/13 16:45	10/08/13 15:56	7429-90-5	M1
Antimony	**46.4**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:56	7440-36-0	
Arsenic	**725**	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:56	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/08/13 16:45	10/09/13 11:23	7440-41-7	
Cadmium	**16.7**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:56	7440-43-9	
Chromium	**318**	ug/L	25.0	5	10/08/13 16:45	10/08/13 16:00	7440-47-3	
Cobalt	**52.2**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:56	7440-48-4	
Copper	ND	ug/L	20.0	2	10/08/13 16:45	10/08/13 15:56	7440-50-8	D3
Iron	**1010000**	ug/L	250	5	10/08/13 16:45	10/09/13 11:23	7439-89-6	
Lead	**203**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:56	7439-92-1	
Nickel	**120**	ug/L	10.0	2	10/08/13 16:45	10/08/13 15:56	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/08/13 16:45	10/08/13 16:00	7782-49-2	
Silver	ND	ug/L	14.0	2	10/08/13 16:45	10/08/13 15:56	7440-22-4	M1,R1
Thallium	ND	ug/L	100	5	10/08/13 16:45	10/08/13 16:00	7440-28-0	D3
Zinc	**15000**	ug/L	1000	20	10/08/13 16:45	10/08/13 16:03	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3670**	ug/L	150	2	10/10/13 21:15	10/11/13 13:02	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:06	7440-36-0	
Arsenic, Dissolved	**570**	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:06	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 13:02	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:06	7440-43-9	D3
Chromium, Dissolved	**242**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:06	7440-47-3	
Cobalt, Dissolved	**36.1**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:06	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 13:02	7440-50-8	
Iron, Dissolved	**566000**	ug/L	100	2	10/10/13 21:15	10/11/13 13:02	7439-89-6	
Lead, Dissolved	**62.4**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:06	7439-92-1	
Nickel, Dissolved	**97.2**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:06	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 13:06	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 13:02	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 13:06	7440-28-0	
Zinc, Dissolved	**11900**	ug/L	1000	20	10/10/13 21:15	10/11/13 13:09	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.8**	ug/L	0.20	1	10/08/13 16:00	10/08/13 11:23	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	10/11/13 10:15	10/11/13 13:32	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/07/13 00:00	10/09/13 17:47	534-52-1	M1
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	77-47-4	M1
Hexachloroethane	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	67-72-1	M1
Naphthalene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Sample: 316-093 **Lab ID: 60154684001** Collected: 10/03/13 08:20 Received: 10/04/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	87-86-5	
Phenol	**12800**	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 17:47	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	91	%	33-120	2	10/07/13 00:00	10/09/13 17:47	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	2	10/07/13 00:00	10/09/13 17:47	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	10/07/13 00:00	10/09/13 17:47	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	10/07/13 00:00	10/09/13 17:47	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	10/07/13 00:00	10/09/13 17:47	367-12-4	
2,4,6-Tribromophenol (S)	76	%	39-120	2	10/07/13 00:00	10/09/13 17:47	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/04/13 15:22	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/04/13 15:22	75-27-4	
Bromoform	ND	ug/L	200	200		10/04/13 15:22	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/04/13 15:22	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/04/13 15:22	56-23-5	
Chloroethane	ND	ug/L	200	200		10/04/13 15:22	75-00-3	
Chloroform	ND	ug/L	200	200		10/04/13 15:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/04/13 15:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/04/13 15:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 15:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/04/13 15:22	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/04/13 15:22	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/04/13 15:22	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/04/13 15:22	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/04/13 15:22	127-18-4	
Toluene	ND	ug/L	200	200		10/04/13 15:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/04/13 15:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/04/13 15:22	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/04/13 15:22	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/04/13 15:22	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/04/13 15:22	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		10/04/13 15:22	460-00-4	D3
Toluene-d8 (S)	121	%	80-120	200		10/04/13 15:22	2037-26-5	S0
1,2-Dichloroethane-d4 (S)	87	%	80-120	200		10/04/13 15:22	17060-07-0	
Preservation pH	**7.0**		1.0	200		10/04/13 15:22		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**445**	mg/L	5.0	1		10/04/13 15:01		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.1**	mg/L	5.0	1		10/08/13 07:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Sample: 316-093 **Lab ID: 60154684001** Collected: 10/03/13 08:20 Received: 10/04/13 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2560**	mg/L	5.0	1		10/10/13 12:53		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		10/08/13 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**30900**	mg/L	2.0	1	10/04/13 10:41	10/09/13 16:18		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**714**	mg/L	20.0	200		10/07/13 11:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**63700**	mg/L	10000	1000		10/09/13 17:10		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Sample: TRIP BLANK **Lab ID: 60154684002** Collected: 10/03/13 08:20 Received: 10/04/13 01:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/04/13 15:44	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/04/13 15:44	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/04/13 15:44	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/04/13 15:44	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/04/13 15:44	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/04/13 15:44	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/04/13 15:44	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/04/13 15:44	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/04/13 15:44	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 15:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/04/13 15:44	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/04/13 15:44	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/04/13 15:44	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/04/13 15:44	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/04/13 15:44	127-18-4	
Toluene	ND	ug/L	1.0	1		10/04/13 15:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/04/13 15:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/04/13 15:44	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/04/13 15:44	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/04/13 15:44	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/04/13 15:44	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/04/13 15:44	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		10/04/13 15:44	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		10/04/13 15:44	17060-07-0	
Preservation pH	**7.0**		1.0	1		10/04/13 15:44		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: MERP/7780
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154684001

METHOD BLANK: 1267267 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/08/13 10:59	

LABORATORY CONTROL SAMPLE: 1267268

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267269 1267270

Parameter	Units	60154572002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.8	5.0	95	98	70-130	3	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154684001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: MPRP/24565
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154684001

METHOD BLANK: 1265769 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/08/13 15:25	
Antimony	ug/L	ND	10.0	10/08/13 15:25	
Arsenic	ug/L	ND	10.0	10/08/13 15:25	
Beryllium	ug/L	ND	1.0	10/08/13 15:25	
Cadmium	ug/L	ND	5.0	10/08/13 15:25	
Chromium	ug/L	ND	5.0	10/08/13 15:25	
Cobalt	ug/L	ND	5.0	10/08/13 15:25	
Copper	ug/L	ND	10.0	10/08/13 15:25	
Iron	ug/L	ND	50.0	10/08/13 15:25	
Lead	ug/L	ND	5.0	10/08/13 15:25	
Nickel	ug/L	ND	5.0	10/08/13 15:25	
Selenium	ug/L	ND	15.0	10/08/13 15:25	
Silver	ug/L	ND	7.0	10/08/13 15:25	
Thallium	ug/L	ND	20.0	10/08/13 15:25	
Zinc	ug/L	ND	50.0	10/08/13 15:25	

LABORATORY CONTROL SAMPLE: 1265770

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9330	93	85-115	
Antimony	ug/L	1000	932	93	85-115	
Arsenic	ug/L	1000	920	92	85-115	
Beryllium	ug/L	1000	912	91	85-115	
Cadmium	ug/L	1000	929	93	85-115	
Chromium	ug/L	1000	973	97	85-115	
Cobalt	ug/L	1000	966	97	85-115	
Copper	ug/L	1000	923	92	85-115	
Iron	ug/L	10000	9030	90	85-115	
Lead	ug/L	1000	981	98	85-115	
Nickel	ug/L	1000	987	99	85-115	
Selenium	ug/L	1000	952	95	85-115	
Silver	ug/L	500	452	90	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	995	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10700	10000	10000	24200	25500	134	148	70-130	5	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1265771 1265772

Parameter	Units	60154684001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	46.4	1000	1000	850	801	80	75	70-130	6	7	
Arsenic	ug/L	725	1000	1000	1880	1860	115	114	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	972	950	97	95	70-130	2	7	
Cadmium	ug/L	16.7	1000	1000	1100	1070	108	105	70-130	3	10	
Chromium	ug/L	318	1000	1000	1280	1280	97	96	70-130	0	10	
Cobalt	ug/L	52.2	1000	1000	971	946	92	89	70-130	3	6	
Copper	ug/L	ND	1000	1000	1040	1000	103	100	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1010000	1020000	-30	70	70-130	1	10	
Lead	ug/L	203	1000	1000	1040	1020	84	82	70-130	2	10	
Nickel	ug/L	120	1000	1000	1050	1020	93	90	70-130	3	10	
Selenium	ug/L	ND	1000	1000	1050	1050	104	104	70-130	0	10	
Silver	ug/L	ND	500	500	42.2	28.1	8	5	70-130	40	10	M1,R1
Thallium	ug/L	ND	1000	1000	796	771	80	77	70-130	3	6	
Zinc	ug/L	15000	1000	1000	15700	15900	78	91	70-130	1	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154684001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: MSV/56776 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60154684001, 60154684002

METHOD BLANK: 1265750 Matrix: Water
Associated Lab Samples: 60154684001, 60154684002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/04/13 09:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/04/13 09:40	
Benzene	ug/L	ND	1.0	10/04/13 09:40	
Bromodichloromethane	ug/L	ND	1.0	10/04/13 09:40	
Bromoform	ug/L	ND	1.0	10/04/13 09:40	
Bromomethane	ug/L	ND	5.0	10/04/13 09:40	
Carbon tetrachloride	ug/L	ND	1.0	10/04/13 09:40	
Chloroethane	ug/L	ND	1.0	10/04/13 09:40	
Chloroform	ug/L	ND	1.0	10/04/13 09:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Ethylbenzene	ug/L	ND	1.0	10/04/13 09:40	
Methylene chloride	ug/L	ND	1.0	10/04/13 09:40	
Tetrachloroethene	ug/L	ND	1.0	10/04/13 09:40	
Toluene	ug/L	ND	1.0	10/04/13 09:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Trichloroethene	ug/L	ND	1.0	10/04/13 09:40	
Vinyl chloride	ug/L	ND	1.0	10/04/13 09:40	
Xylene (Total)	ug/L	ND	3.0	10/04/13 09:40	
1,2-Dichloroethane-d4 (S)	%	101	80-120	10/04/13 09:40	
4-Bromofluorobenzene (S)	%	97	80-120	10/04/13 09:40	
Toluene-d8 (S)	%	100	80-120	10/04/13 09:40	

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.1	90	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.0	90	59-138	
1,1,2-Trichloroethane	ug/L	20	19.3	97	69-127	
1,2-Dichloroethane	ug/L	20	19.5	98	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	19.6	98	73-129	
Bromodichloromethane	ug/L	20	18.4	92	63-129	
Bromoform	ug/L	20	16.4	82	52-123	
Bromomethane	ug/L	20	9.0	45	10-160	
Carbon tetrachloride	ug/L	20	20.0	100	70-140	
Chloroethane	ug/L	20	19.1	96	42-160	
Chloroform	ug/L	20	18.2	91	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.3	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

LABORATORY CONTROL SAMPLE: 1265751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.2	96	66-133	
Methylene chloride	ug/L	20	24.7	123	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.5	98	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	19.5	97	71-130	
Vinyl chloride	ug/L	20	15.6	78	41-160	
Xylene (Total)	ug/L	60	56.1	94	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1265752

Parameter	Units	60154302001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4160	104	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3380	85	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3520	86	18-147	
Benzene	ug/L	ND	4000	3930	98	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3130	78	45-133	
Bromomethane	ug/L	ND	4000	1690	41	10-160	
Carbon tetrachloride	ug/L	ND	4000	4010	100	70-140	
Chloroethane	ug/L	ND	4000	3560	89	14-160	
Chloroform	ug/L	ND	4000	3940	99	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3980	100	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	ND	4000	3270	82	15-156	
Tetrachloroethene	ug/L	ND	4000	3760	94	64-148	
Toluene	ug/L	ND	4000	3780	94	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3530	88	54-156	
Trichloroethene	ug/L	ND	4000	3820	95	71-157	
Vinyl chloride	ug/L	ND	4000	2920	73	10-160	
Xylene (Total)	ug/L	ND	12000	10700	89	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: OEXT/40863 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60154684001

METHOD BLANK: 1266952 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/08/13 15:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/08/13 15:12	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/08/13 15:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/08/13 15:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/08/13 15:12	
Hexachloroethane	ug/L	ND	5.0	10/08/13 15:12	
Naphthalene	ug/L	ND	5.0	10/08/13 15:12	
Nitrobenzene	ug/L	ND	5.0	10/08/13 15:12	
Pentachlorophenol	ug/L	ND	5.0	10/08/13 15:12	
Phenol	ug/L	ND	5.0	10/08/13 15:12	
2,4,6-Tribromophenol (S)	%	76	39-120	10/08/13 15:12	
2-Fluorobiphenyl (S)	%	77	39-120	10/08/13 15:12	
2-Fluorophenol (S)	%	48	17-120	10/08/13 15:12	
Nitrobenzene-d5 (S)	%	70	33-120	10/08/13 15:12	
Phenol-d6 (S)	%	35	11-120	10/08/13 15:12	
Terphenyl-d14 (S)	%	82	45-120	10/08/13 15:12	

LABORATORY CONTROL SAMPLE: 1266953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.7	69	46-120	
2,4,6-Trichlorophenol	ug/L	50	39.4	79	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	42.4	85	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.2	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	35.3	71	43-113	
Naphthalene	ug/L	50	35.8	72	48-120	
Nitrobenzene	ug/L	50	36.8	74	48-120	
Pentachlorophenol	ug/L	50	42.5	85	47-120	
Phenol	ug/L	50	19.4	39	16-112	
2,4,6-Tribromophenol (S)	%			83	39-120	
2-Fluorobiphenyl (S)	%			76	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			68	33-120	
Phenol-d6 (S)	%			36	11-120	
Terphenyl-d14 (S)	%			82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

MATRIX SPIKE SAMPLE: 1266954

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3020	60	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3840	77	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	ND	0	10-160	M1
Hexachloro-1,3-butadiene	ug/L	ND	5000	3100	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	ND	0	11-120	M1
Hexachloroethane	ug/L	ND	5000	1430	29	40-113	M1
Naphthalene	ug/L	ND	5000	3320	66	45-120	
Nitrobenzene	ug/L	ND	5000	3380	68	38-120	
Pentachlorophenol	ug/L	ND	5000	3860	77	43-135	
Phenol	ug/L	12800	5000	15600	56	13-112	
2,4,6-Tribromophenol (S)	%				78	39-120	
2-Fluorobiphenyl (S)	%				69	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				73	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WET/43813 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154684001

METHOD BLANK: 1266161 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/04/13 15:00	

LABORATORY CONTROL SAMPLE: 1266162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.6	96	78-114	

MATRIX SPIKE SAMPLE: 1266165

Parameter	Units	60154641003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	<5.0	40.8	42.0	95	78-114	

SAMPLE DUPLICATE: 1266166

Parameter	Units	60154642002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	<5.0	1.9J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WET/43850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154684001

METHOD BLANK: 1267434 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/08/13 07:33	

LABORATORY CONTROL SAMPLE: 1267435

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: 1267436

Parameter	Units	60154093007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	22.7	103	64-132	

SAMPLE DUPLICATE: 1267439

Parameter	Units	60154694001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WET/43921 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154684001

METHOD BLANK: 1268982 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/10/13 12:53	

SAMPLE DUPLICATE: 1268983

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2560	2400	6	25	

SAMPLE DUPLICATE: 1268984

Parameter	Units	60154639003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	642	665	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WET/43868
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154684001

SAMPLE DUPLICATE: 1267562

Parameter	Units	60154785002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WET/43809
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154684001

METHOD BLANK: 1265738 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/09/13 14:55	

LABORATORY CONTROL SAMPLE: 1265739

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	194	98	85-115	

SAMPLE DUPLICATE: 1265740

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30900	30200	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WETA/26515 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154684001

METHOD BLANK: 1267012 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/07/13 11:24	

LABORATORY CONTROL SAMPLE: 1267013

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

MATRIX SPIKE SAMPLE: 1267014

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	696	400	1070	94	90-110	

SAMPLE DUPLICATE: 1267015

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	714	713	0	18	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

QC Batch: WETA/26543
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60154684001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154684001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-093
Pace Project No.: 60154684

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154684001	**316-093**	EPA 200.7	MPRP/24565	EPA 200.7	ICP/19146
60154684001	**316-093**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60154684001	**316-093**	EPA 245.1	MERP/7780	EPA 245.1	MERC/7735
60154684001	**316-093**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60154684001	**316-093**	EPA 625	OEXT/40863	EPA 625	MSSV/12960
60154684001	**316-093**	EPA 624 Low	MSV/56776		
60154684002	**TRIP BLANK**	EPA 624 Low	MSV/56776		
60154684001	**316-093**	EPA 1664A	WET/43813		
60154684001	**316-093**	EPA 1664A	WET/43850		
60154684001	**316-093**	SM 2540D	WET/43921		
60154684001	**316-093**	SM 4500-H+B	WET/43868		
60154684001	**316-093**	SM 5210B	WET/43809	SM 5210B	WET/43908
60154684001	**316-093**	EPA 350.1	WETA/26515		
60154684001	**316-093**	EPA 410.4	WETA/26543		

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Sample Condition Upon Receipt

WO# : 60154684

60154684

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 lc

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 10/4/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	collected @ 0820
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5 mL of HNO3 to BP3N. pH 6.0/4.0 Added 2.0 mL of H2SO4 to BP3S. pH 6.0/2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: PV Lot # of added preservative: 12510 12516
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 060313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/7/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

60154684

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)	
1	316-093 1BP3U 1BP3S 2.0 1BP3N 4.0 2BP2U	OT	G	10/03/13					16	11	1	1	3	2AG4U	2AG1H				X	X	X	X	X	X	X	X	X	X	X	5DG9U		LOG samples as OQS
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	JULIE CROAK / Julie Croak	10-3-13	1452	[signature] #716	10/3/13	1452				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	10/4	0155	3.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-03-13

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

October 14, 2013

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

RE: Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 04, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154802001	**316-094**	Water	10/04/13 08:40	10/04/13 23:00
60154802002	**TRIP BLANK**	Water	10/04/13 00:00	10/04/13 23:00

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154802001	**316-094**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154802002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Sample: 316-094 **Lab ID: 60154802001** Collected: 10/04/13 08:40 Received: 10/04/13 23:00 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	**12800**	ug/L	150	2	10/07/13 16:45	10/09/13 12:34	7429-90-5	
Antimony	**52.3**	ug/L	50.0	5	10/07/13 16:45	10/09/13 12:37	7440-36-0	
Arsenic	**663**	ug/L	50.0	5	10/07/13 16:45	10/09/13 12:37	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/07/13 16:45	10/09/13 12:34	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/07/13 16:45	10/09/13 12:37	7440-43-9	D3
Chromium	**314**	ug/L	25.0	5	10/07/13 16:45	10/09/13 12:37	7440-47-3	
Cobalt	**51.7**	ug/L	25.0	5	10/07/13 16:45	10/09/13 12:37	7440-48-4	
Copper	ND	ug/L	20.0	2	10/07/13 16:45	10/09/13 12:34	7440-50-8	
Iron	**942000**	ug/L	100	2	10/07/13 16:45	10/09/13 12:34	7439-89-6	
Lead	**191**	ug/L	25.0	5	10/07/13 16:45	10/09/13 12:37	7439-92-1	
Nickel	**131**	ug/L	25.0	5	10/07/13 16:45	10/09/13 12:37	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/07/13 16:45	10/09/13 12:37	7782-49-2	
Silver	ND	ug/L	14.0	2	10/07/13 16:45	10/09/13 12:34	7440-22-4	
Thallium	ND	ug/L	100	5	10/07/13 16:45	10/09/13 12:37	7440-28-0	
Zinc	**15400**	ug/L	1000	20	10/07/13 16:45	10/09/13 12:41	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3650**	ug/L	150	2	10/10/13 21:15	10/11/13 14:26	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:29	7440-36-0	
Arsenic, Dissolved	**566**	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:29	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 14:26	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:29	7440-43-9	D3
Chromium, Dissolved	**240**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:29	7440-47-3	
Cobalt, Dissolved	**39.5**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:29	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 14:26	7440-50-8	
Iron, Dissolved	**574000**	ug/L	100	2	10/10/13 21:15	10/11/13 14:26	7439-89-6	
Lead, Dissolved	**68.6**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:29	7439-92-1	
Nickel, Dissolved	**103**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:29	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 14:29	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 14:26	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 14:29	7440-28-0	
Zinc, Dissolved	**12400**	ug/L	1000	20	10/10/13 21:15	10/11/13 14:33	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.56**	ug/L	0.20	1	10/08/13 16:00	10/08/13 11:25	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	10/11/13 10:15	10/11/13 13:41	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/07/13 00:00	10/09/13 18:07	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Sample: 316-094 **Lab ID: 60154802001** Collected: 10/04/13 08:40 Received: 10/04/13 23:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	87-86-5	
Phenol	**11900**	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/07/13 00:00	10/09/13 18:07	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	91	%	33-120	2	10/07/13 00:00	10/09/13 18:07	4165-60-0	
2-Fluorobiphenyl (S)	70	%	39-120	2	10/07/13 00:00	10/09/13 18:07	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	10/07/13 00:00	10/09/13 18:07	1718-51-0	
Phenol-d6 (S)	36	%	11-120	2	10/07/13 00:00	10/09/13 18:07	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	10/07/13 00:00	10/09/13 18:07	367-12-4	
2,4,6-Tribromophenol (S)	79	%	39-120	2	10/07/13 00:00	10/09/13 18:07	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/08/13 10:20	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/08/13 10:20	75-27-4	
Bromoform	ND	ug/L	200	200		10/08/13 10:20	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/08/13 10:20	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/08/13 10:20	56-23-5	
Chloroethane	ND	ug/L	200	200		10/08/13 10:20	75-00-3	
Chloroform	ND	ug/L	200	200		10/08/13 10:20	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/08/13 10:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/08/13 10:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 10:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 10:20	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/08/13 10:20	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/08/13 10:20	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/08/13 10:20	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/08/13 10:20	127-18-4	
Toluene	ND	ug/L	200	200		10/08/13 10:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/08/13 10:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/08/13 10:20	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/08/13 10:20	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/08/13 10:20	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/08/13 10:20	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		10/08/13 10:20	460-00-4	D3
Toluene-d8 (S)	110	%	80-120	200		10/08/13 10:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		10/08/13 10:20	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/08/13 10:20		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**510**	mg/L	5.0	1		10/07/13 07:41		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/08/13 07:37		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Sample: 316-094 **Lab ID: 60154802001** Collected: 10/04/13 08:40 Received: 10/04/13 23:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1580**	mg/L	5.0	1		10/10/13 12:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		10/08/13 10:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**29600**	mg/L	2.0	1	10/05/13 10:35	10/10/13 14:01		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**643**	mg/L	20.0	200		10/07/13 11:34	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**65900**	mg/L	10000	1000		10/09/13 17:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Sample: TRIP BLANK **Lab ID: 60154802002** Collected: 10/04/13 00:00 Received: 10/04/13 23:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/08/13 09:59	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/08/13 09:59	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/08/13 09:59	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/08/13 09:59	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/08/13 09:59	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/08/13 09:59	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/08/13 09:59	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/08/13 09:59	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/08/13 09:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 09:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 09:59	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/08/13 09:59	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/08/13 09:59	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/08/13 09:59	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/08/13 09:59	127-18-4	
Toluene	ND	ug/L	1.0	1		10/08/13 09:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/08/13 09:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/08/13 09:59	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/08/13 09:59	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/08/13 09:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/08/13 09:59	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		10/08/13 09:59	460-00-4	
Toluene-d8 (S)	105	%	80-120	1		10/08/13 09:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	1		10/08/13 09:59	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/08/13 09:59		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: MERP/7780
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154802001

METHOD BLANK: 1267267 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/08/13 10:59	

LABORATORY CONTROL SAMPLE: 1267268

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267269 1267270

Parameter	Units	60154572002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.8	5.0	95	98	70-130	3	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154802001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: MPRP/24606
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154802001

METHOD BLANK: 1267204 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/09/13 12:28	
Antimony	ug/L	ND	10.0	10/09/13 12:28	
Arsenic	ug/L	ND	10.0	10/09/13 12:28	
Beryllium	ug/L	ND	1.0	10/09/13 12:28	
Cadmium	ug/L	ND	5.0	10/09/13 12:28	
Chromium	ug/L	ND	5.0	10/09/13 12:28	
Cobalt	ug/L	ND	5.0	10/09/13 12:28	
Copper	ug/L	ND	10.0	10/09/13 12:28	
Iron	ug/L	ND	50.0	10/09/13 12:28	
Lead	ug/L	ND	5.0	10/09/13 12:28	
Nickel	ug/L	ND	5.0	10/09/13 12:28	
Selenium	ug/L	ND	15.0	10/09/13 12:28	
Silver	ug/L	ND	7.0	10/09/13 12:28	
Thallium	ug/L	ND	20.0	10/09/13 12:28	
Zinc	ug/L	ND	50.0	10/09/13 12:28	

LABORATORY CONTROL SAMPLE: 1267205

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9440	94	85-115	
Antimony	ug/L	1000	949	95	85-115	
Arsenic	ug/L	1000	908	91	85-115	
Beryllium	ug/L	1000	935	94	85-115	
Cadmium	ug/L	1000	938	94	85-115	
Chromium	ug/L	1000	927	93	85-115	
Cobalt	ug/L	1000	962	96	85-115	
Copper	ug/L	1000	928	93	85-115	
Iron	ug/L	10000	9190	92	85-115	
Lead	ug/L	1000	961	96	85-115	
Nickel	ug/L	1000	979	98	85-115	
Selenium	ug/L	1000	943	94	85-115	
Silver	ug/L	500	448	90	85-115	
Thallium	ug/L	1000	982	98	85-115	
Zinc	ug/L	1000	940	94	85-115	

MATRIX SPIKE SAMPLE: 1267206

Parameter	Units	60154694002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	0.41 mg/L	10000	9900	95	70-130	
Antimony	ug/L	ND	1000	981	98	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

MATRIX SPIKE SAMPLE: 1267206

Parameter	Units	60154694002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	958	96	70-130	
Beryllium	ug/L	ND	1000	948	95	70-130	
Cadmium	ug/L	ND	1000	960	96	70-130	
Chromium	ug/L	0.028 mg/L	1000	968	94	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	0.019 mg/L	1000	964	95	70-130	
Iron	ug/L	0.10 mg/L	10000	9220	91	70-130	
Lead	ug/L	ND	1000	938	93	70-130	
Nickel	ug/L	ND	1000	965	96	70-130	
Selenium	ug/L	ND	1000	973	97	70-130	
Silver	ug/L	ND	500	464	93	70-130	
Thallium	ug/L	ND	1000	917	92	70-130	
Zinc	ug/L	ND	1000	959	95	70-130	

MATRIX SPIKE SAMPLE: 1267207

Parameter	Units	60154785002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	2000	10000	13100	111	70-130	
Antimony	ug/L	ND	1000	994	99	70-130	
Arsenic	ug/L	ND	1000	960	95	70-130	
Beryllium	ug/L	ND	1000	966	97	70-130	
Cadmium	ug/L	ND	1000	978	98	70-130	
Chromium	ug/L	ND	1000	963	96	70-130	
Cobalt	ug/L	ND	1000	994	99	70-130	
Copper	ug/L	ND	1000	977	97	70-130	
Iron	ug/L	2660	10000	12200	96	70-130	
Lead	ug/L	ND	1000	991	99	70-130	
Nickel	ug/L	ND	1000	1010	101	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	467	93	70-130	
Thallium	ug/L	ND	1000	1010	101	70-130	
Zinc	ug/L	ND	1000	990	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154802001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: MSV/56841
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154802001, 60154802002

METHOD BLANK: 1267526 Matrix: Water
Associated Lab Samples: 60154802001, 60154802002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,2-Dichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/08/13 09:37	
Benzene	ug/L	ND	1.0	10/08/13 09:37	
Bromodichloromethane	ug/L	ND	1.0	10/08/13 09:37	
Bromoform	ug/L	ND	1.0	10/08/13 09:37	
Bromomethane	ug/L	ND	5.0	10/08/13 09:37	
Carbon tetrachloride	ug/L	ND	1.0	10/08/13 09:37	
Chloroethane	ug/L	ND	1.0	10/08/13 09:37	
Chloroform	ug/L	ND	1.0	10/08/13 09:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Ethylbenzene	ug/L	ND	1.0	10/08/13 09:37	
Methylene chloride	ug/L	ND	1.0	10/08/13 09:37	
Tetrachloroethene	ug/L	ND	1.0	10/08/13 09:37	
Toluene	ug/L	ND	1.0	10/08/13 09:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Trichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Vinyl chloride	ug/L	ND	1.0	10/08/13 09:37	
Xylene (Total)	ug/L	ND	3.0	10/08/13 09:37	
1,2-Dichloroethane-d4 (S)	%	102	80-120	10/08/13 09:37	
4-Bromofluorobenzene (S)	%	101	80-120	10/08/13 09:37	
Toluene-d8 (S)	%	107	80-120	10/08/13 09:37	

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.2	111	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.7	89	59-138	
1,1,2-Trichloroethane	ug/L	20	18.5	93	69-127	
1,2-Dichloroethane	ug/L	20	21.4	107	71-129	
1,4-Dichlorobenzene	ug/L	20	18.3	91	68-124	
Benzene	ug/L	20	21.4	107	73-129	
Bromodichloromethane	ug/L	20	20.6	103	63-129	
Bromoform	ug/L	20	17.2	86	52-123	
Bromomethane	ug/L	20	17.0	85	10-160	
Carbon tetrachloride	ug/L	20	21.4	107	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.1	90	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	90	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	18.8	94	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	16.3	81	41-160	
Xylene (Total)	ug/L	60	53.7	90	67-130	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			108	80-120	

MATRIX SPIKE SAMPLE: 1267528

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4110	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3290	82	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3660	92	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4150	104	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3460	83	18-147	
Benzene	ug/L	ND	4000	4320	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3180	80	45-133	
Bromomethane	ug/L	ND	4000	3120	76	10-160	
Carbon tetrachloride	ug/L	ND	4000	4420	111	70-140	
Chloroethane	ug/L	ND	4000	3370	84	14-160	
Chloroform	ug/L	ND	4000	4170	104	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	3490	87	37-154	
Methylene chloride	ug/L	ND	4000	4440	111	15-156	
Tetrachloroethene	ug/L	ND	4000	3790	94	64-148	
Toluene	ug/L	ND	4000	4210	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4340	109	54-156	
Trichloroethene	ug/L	ND	4000	4350	109	71-157	
Vinyl chloride	ug/L	ND	4000	2950	74	10-160	
Xylene (Total)	ug/L	ND	12000	10600	88	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: OEXT/40863 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60154802001

METHOD BLANK: 1266952 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/08/13 15:12	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/08/13 15:12	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/08/13 15:12	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/08/13 15:12	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/08/13 15:12	
Hexachloroethane	ug/L	ND	5.0	10/08/13 15:12	
Naphthalene	ug/L	ND	5.0	10/08/13 15:12	
Nitrobenzene	ug/L	ND	5.0	10/08/13 15:12	
Pentachlorophenol	ug/L	ND	5.0	10/08/13 15:12	
Phenol	ug/L	ND	5.0	10/08/13 15:12	
2,4,6-Tribromophenol (S)	%	76	39-120	10/08/13 15:12	
2-Fluorobiphenyl (S)	%	77	39-120	10/08/13 15:12	
2-Fluorophenol (S)	%	48	17-120	10/08/13 15:12	
Nitrobenzene-d5 (S)	%	70	33-120	10/08/13 15:12	
Phenol-d6 (S)	%	35	11-120	10/08/13 15:12	
Terphenyl-d14 (S)	%	82	45-120	10/08/13 15:12	

LABORATORY CONTROL SAMPLE: 1266953

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.7	69	46-120	
2,4,6-Trichlorophenol	ug/L	50	39.4	79	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	42.4	85	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.2	70	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.6	70	24-120	
Hexachloroethane	ug/L	50	35.3	71	43-113	
Naphthalene	ug/L	50	35.8	72	48-120	
Nitrobenzene	ug/L	50	36.8	74	48-120	
Pentachlorophenol	ug/L	50	42.5	85	47-120	
Phenol	ug/L	50	19.4	39	16-112	
2,4,6-Tribromophenol (S)	%			83	39-120	
2-Fluorobiphenyl (S)	%			76	39-120	
2-Fluorophenol (S)	%			49	17-120	
Nitrobenzene-d5 (S)	%			68	33-120	
Phenol-d6 (S)	%			36	11-120	
Terphenyl-d14 (S)	%			82	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

MATRIX SPIKE SAMPLE: 1266954

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3020	60	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3840	77	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	ND	0	10-160	M1
Hexachloro-1,3-butadiene	ug/L	ND	5000	3100	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	ND	0	11-120	M1
Hexachloroethane	ug/L	ND	5000	1430	29	40-113	M1
Naphthalene	ug/L	ND	5000	3320	66	45-120	
Nitrobenzene	ug/L	ND	5000	3380	68	38-120	
Pentachlorophenol	ug/L	ND	5000	3860	77	43-135	
Phenol	ug/L	12800	5000	15600	56	13-112	
2,4,6-Tribromophenol (S)	%				78	39-120	
2-Fluorobiphenyl (S)	%				69	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				73	45-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WET/43823 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154802001

METHOD BLANK: 1266911 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/07/13 07:41	

LABORATORY CONTROL SAMPLE: 1266912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.6	99	78-114	

MATRIX SPIKE SAMPLE: 1266915

Parameter	Units	60154472002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	39.5	95	78-114	

SAMPLE DUPLICATE: 1266916

Parameter	Units	60154542001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WET/43850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154802001

METHOD BLANK: 1267434 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/08/13 07:33	

LABORATORY CONTROL SAMPLE: 1267435

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: 1267436

Parameter	Units	60154093007 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.3	22.7	103	64-132	

SAMPLE DUPLICATE: 1267439

Parameter	Units	60154694001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WET/43921
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154802001

METHOD BLANK: 1268982 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/10/13 12:53	

SAMPLE DUPLICATE: 1268983

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2560	2400	6	25	

SAMPLE DUPLICATE: 1268984

Parameter	Units	60154639003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	642	665	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WET/43869
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154802001

SAMPLE DUPLICATE: 1267563

Parameter	Units	60154764003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WET/43816
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154802001

METHOD BLANK: 1266501 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/10/13 12:56	

LABORATORY CONTROL SAMPLE: 1266502

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1266503

Parameter	Units	60154785002 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		17	

SAMPLE DUPLICATE: 1266504

Parameter	Units	60154764003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.7	7.4	26	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WETA/26515 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154802001

METHOD BLANK: 1267012 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/07/13 11:24	

LABORATORY CONTROL SAMPLE: 1267013

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

MATRIX SPIKE SAMPLE: 1267014

Parameter	Units	60154439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	696	400	1070	94	90-110	

SAMPLE DUPLICATE: 1267015

Parameter	Units	60154684001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	714	713	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

QC Batch: WETA/26543 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60154802001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154802001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-094
Pace Project No.: 60154802

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154802001	**316-094**	EPA 200.7	MPRP/24606	EPA 200.7	ICP/19150
60154802001	**316-094**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60154802001	**316-094**	EPA 245.1	MERP/7780	EPA 245.1	MERC/7735
60154802001	**316-094**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60154802001	**316-094**	EPA 625	OEXT/40863	EPA 625	MSSV/12960
60154802001	**316-094**	EPA 624 Low	MSV/56841		
60154802002	**TRIP BLANK**	EPA 624 Low	MSV/56841		
60154802001	**316-094**	EPA 1664A	WET/43823		
60154802001	**316-094**	EPA 1664A	WET/43850		
60154802001	**316-094**	SM 2540D	WET/43921		
60154802001	**316-094**	SM 4500-H+B	WET/43869		
60154802001	**316-094**	SM 5210B	WET/43816	SM 5210B	WET/43940
60154802001	**316-094**	EPA 350.1	WETA/26515		
60154802001	**316-094**	EPA 410.4	WETA/26543		

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Sample Condition Upon Receipt

WO#: 60154802

60154802

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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-112 / T-194 **Type of Ice:** Wet Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 3.7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/5/13 KD

Chain of Custody present:	☑Yes ☐No ☐N/A	1.	
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.	
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.	
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.	
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.	
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6.	BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.	
Sufficient volume:	☑Yes ☐No ☐N/A	8.	
Correct containers used:	☑Yes ☐No ☐N/A		
Pace containers used:	☑Yes ☐No ☐N/A	9.	
Containers intact:	☑Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.	
Sample labels match COC:	☑Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix: WT		13.	
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14.	initial ph BP3N 4.5, added 2.5ml HNO3, final ph 3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A		initial ph BP3S 4.5, added 2.5ml, Final 3.5
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): 060313-3		15.	
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/7/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency:

State / Location: Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	6154802
1	2AG4H 316-094 2AG1H, 2BP2U, BP3U	OT	G	10/04/13	0840	BP3N 3.0			16	11	1	1	3	BP3S 3	5				X	X	X	X	X	X	X	X	X	X	X	50	[illegible]	LOG samples as OQS (01)
2	TRIP BLANK								2	2																X						20h9u (TB) (02)
3																																
4																																
5																																
6																																METALS LIST total & LF Dis
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	JULIE CROAK / Julie Croak	10/4/13	1421	[illegible signature]	10/4/13	1421				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	10/4	2300	3.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 10-04-13

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

October 14, 2013

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

RE: Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154861001	**316-095**	Water	10/05/13 15:44	10/07/13 13:00
60154861002	**TRIP BLANK**	Water	10/05/13 15:44	10/07/13 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154861001	**316-095**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154861002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Sample: 316-095 **Lab ID: 60154861001** Collected: 10/05/13 15:44 Received: 10/07/13 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	**7430**	ug/L	150	2	10/10/13 12:00	10/11/13 15:11	7429-90-5	
Antimony	ND	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:11	7440-36-0	D3
Arsenic	**610**	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:11	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/10/13 12:00	10/11/13 15:11	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:11	7440-43-9	
Chromium	**271**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:11	7440-47-3	
Cobalt	**43.0**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:11	7440-48-4	
Copper	ND	ug/L	20.0	2	10/10/13 12:00	10/11/13 15:11	7440-50-8	
Iron	**829000**	ug/L	250	5	10/10/13 12:00	10/14/13 13:11	7439-89-6	M1
Lead	**136**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:11	7439-92-1	
Nickel	**113**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:11	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/10/13 12:00	10/14/13 13:11	7782-49-2	
Silver	**14.8**	ug/L	14.0	2	10/10/13 12:00	10/11/13 15:11	7440-22-4	M1
Thallium	ND	ug/L	100	5	10/10/13 12:00	10/14/13 13:11	7440-28-0	
Zinc	**14700**	ug/L	500	10	10/10/13 12:00	10/11/13 15:15	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3070**	ug/L	150	2	10/10/13 21:15	10/11/13 13:13	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:16	7440-36-0	
Arsenic, Dissolved	**559**	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 13:13	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:16	7440-43-9	D3
Chromium, Dissolved	**227**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:16	7440-47-3	
Cobalt, Dissolved	**39.5**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:16	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 13:13	7440-50-8	
Iron, Dissolved	**576000**	ug/L	100	2	10/10/13 21:15	10/11/13 13:13	7439-89-6	
Lead, Dissolved	**79.8**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:16	7439-92-1	
Nickel, Dissolved	**105**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:16	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 13:16	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 13:13	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 13:16	7440-28-0	
Zinc, Dissolved	**10100**	ug/L	1000	20	10/10/13 21:15	10/11/13 13:20	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.0**	ug/L	0.20	1	10/08/13 16:00	10/08/13 11:29	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	10/11/13 10:15	10/11/13 13:35	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/10/13 00:00	10/11/13 16:04	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Sample: 316-095 **Lab ID: 60154861001** Collected: 10/05/13 15:44 Received: 10/07/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	87-86-5	
Phenol	**7350**	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:04	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	98	%	33-120	2	10/10/13 00:00	10/11/13 16:04	4165-60-0	
2-Fluorobiphenyl (S)	76	%	39-120	2	10/10/13 00:00	10/11/13 16:04	321-60-8	
Terphenyl-d14 (S)	78	%	45-120	2	10/10/13 00:00	10/11/13 16:04	1718-51-0	
Phenol-d6 (S)	24	%	11-120	2	10/10/13 00:00	10/11/13 16:04	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	2	10/10/13 00:00	10/11/13 16:04	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	10/10/13 00:00	10/11/13 16:04	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/08/13 11:03	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/08/13 11:03	75-27-4	
Bromoform	ND	ug/L	200	200		10/08/13 11:03	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/08/13 11:03	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/08/13 11:03	56-23-5	
Chloroethane	ND	ug/L	200	200		10/08/13 11:03	75-00-3	
Chloroform	ND	ug/L	200	200		10/08/13 11:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/08/13 11:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/08/13 11:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 11:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 11:03	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/08/13 11:03	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/08/13 11:03	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/08/13 11:03	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/08/13 11:03	127-18-4	
Toluene	ND	ug/L	200	200		10/08/13 11:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/08/13 11:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/08/13 11:03	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/08/13 11:03	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/08/13 11:03	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/08/13 11:03	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		10/08/13 11:03	460-00-4	D3
Toluene-d8 (S)	149	%	80-120	200		10/08/13 11:03	2037-26-5	S0
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		10/08/13 11:03	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/08/13 11:03		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**541**	mg/L	5.0	1		10/08/13 07:43		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/14/13 07:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Sample: 316-095 **Lab ID: 60154861001** Collected: 10/05/13 15:44 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1780**	mg/L	5.0	1		10/11/13 12:52		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**7.5**	Std. Units	0.10	1		10/08/13 10:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**31100**	mg/L	2.0	1	10/07/13 15:36	10/12/13 10:07		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**688**	mg/L	20.0	200		10/09/13 10:51	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**75200**	mg/L	10000	1000		10/09/13 17:13		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Sample: TRIP BLANK **Lab ID: 60154861002** Collected: 10/05/13 15:44 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/08/13 11:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/08/13 11:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/08/13 11:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/08/13 11:24	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/08/13 11:24	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/08/13 11:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/08/13 11:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/08/13 11:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/08/13 11:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 11:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 11:24	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/08/13 11:24	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/08/13 11:24	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/08/13 11:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/08/13 11:24	127-18-4	
Toluene	ND	ug/L	1.0	1		10/08/13 11:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/08/13 11:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/08/13 11:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/08/13 11:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/08/13 11:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/08/13 11:24	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/08/13 11:24	460-00-4	
Toluene-d8 (S)	106	%	80-120	1		10/08/13 11:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		10/08/13 11:24	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/08/13 11:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: MERP/7780
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154861001

METHOD BLANK: 1267267 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/08/13 10:59	

LABORATORY CONTROL SAMPLE: 1267268

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1267269 1267270

Parameter	Units	60154572002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.8	5.0	95	98	70-130	3	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154861001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: MPRP/24659
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154861001

METHOD BLANK: 1269238 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/11/13 15:08	
Antimony	ug/L	ND	10.0	10/11/13 15:08	
Arsenic	ug/L	ND	10.0	10/11/13 15:08	
Beryllium	ug/L	ND	1.0	10/11/13 15:08	
Cadmium	ug/L	ND	5.0	10/11/13 15:08	
Chromium	ug/L	ND	5.0	10/11/13 15:08	
Cobalt	ug/L	ND	5.0	10/11/13 15:08	
Copper	ug/L	ND	10.0	10/11/13 15:08	
Iron	ug/L	ND	50.0	10/14/13 11:38	
Lead	ug/L	ND	5.0	10/11/13 15:08	
Nickel	ug/L	ND	5.0	10/11/13 15:08	
Selenium	ug/L	ND	15.0	10/11/13 15:08	
Silver	ug/L	ND	7.0	10/11/13 15:08	
Thallium	ug/L	ND	20.0	10/11/13 15:08	
Zinc	ug/L	ND	50.0	10/11/13 15:08	

LABORATORY CONTROL SAMPLE: 1269239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9660	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	953	95	85-115	
Cadmium	ug/L	1000	975	98	85-115	
Chromium	ug/L	1000	934	93	85-115	
Cobalt	ug/L	1000	999	100	85-115	
Copper	ug/L	1000	975	98	85-115	
Iron	ug/L	10000	9850	98	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	934	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7430	10000	10000	19800	20000	123	126	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	864	870	82	83	70-130	1	7	
Arsenic	ug/L	610	1000	1000	1690	1690	108	108	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	892	896	89	90	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Chromium	ug/L	271	1000	1000	1200	1200	93	93	70-130	0	10	
Cobalt	ug/L	43.0	1000	1000	964	968	92	92	70-130	0	6	
Copper	ug/L	ND	1000	1000	1100	1100	110	110	70-130	0	11	
Iron	ug/L	829000	10000	10000	850000	852000	210	235	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1000	998	86	86	70-130	0	10	
Nickel	ug/L	113	1000	1000	1060	1060	94	95	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1090	1090	109	109	70-130	0	10	
Silver	ug/L	14.8	500	500	49.4	52.2	7	7	70-130	6	10	M1
Thallium	ug/L	ND	1000	1000	796	791	80	79	70-130	1	6	
Zinc	ug/L	14700	1000	1000	15700	16000	101	133	70-130	2	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154861001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: MSV/56841
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154861001, 60154861002

METHOD BLANK: 1267526
Matrix: Water
Associated Lab Samples: 60154861001, 60154861002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,2-Dichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/08/13 09:37	
Benzene	ug/L	ND	1.0	10/08/13 09:37	
Bromodichloromethane	ug/L	ND	1.0	10/08/13 09:37	
Bromoform	ug/L	ND	1.0	10/08/13 09:37	
Bromomethane	ug/L	ND	5.0	10/08/13 09:37	
Carbon tetrachloride	ug/L	ND	1.0	10/08/13 09:37	
Chloroethane	ug/L	ND	1.0	10/08/13 09:37	
Chloroform	ug/L	ND	1.0	10/08/13 09:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Ethylbenzene	ug/L	ND	1.0	10/08/13 09:37	
Methylene chloride	ug/L	ND	1.0	10/08/13 09:37	
Tetrachloroethene	ug/L	ND	1.0	10/08/13 09:37	
Toluene	ug/L	ND	1.0	10/08/13 09:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Trichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Vinyl chloride	ug/L	ND	1.0	10/08/13 09:37	
Xylene (Total)	ug/L	ND	3.0	10/08/13 09:37	
1,2-Dichloroethane-d4 (S)	%	102	80-120	10/08/13 09:37	
4-Bromofluorobenzene (S)	%	101	80-120	10/08/13 09:37	
Toluene-d8 (S)	%	107	80-120	10/08/13 09:37	

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.2	111	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.7	89	59-138	
1,1,2-Trichloroethane	ug/L	20	18.5	93	69-127	
1,2-Dichloroethane	ug/L	20	21.4	107	71-129	
1,4-Dichlorobenzene	ug/L	20	18.3	91	68-124	
Benzene	ug/L	20	21.4	107	73-129	
Bromodichloromethane	ug/L	20	20.6	103	63-129	
Bromoform	ug/L	20	17.2	86	52-123	
Bromomethane	ug/L	20	17.0	85	10-160	
Carbon tetrachloride	ug/L	20	21.4	107	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.1	90	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	90	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	18.8	94	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	16.3	81	41-160	
Xylene (Total)	ug/L	60	53.7	90	67-130	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			108	80-120	

MATRIX SPIKE SAMPLE: 1267528

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4110	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3290	82	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3660	92	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4150	104	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3460	83	18-147	
Benzene	ug/L	ND	4000	4320	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3180	80	45-133	
Bromomethane	ug/L	ND	4000	3120	76	10-160	
Carbon tetrachloride	ug/L	ND	4000	4420	111	70-140	
Chloroethane	ug/L	ND	4000	3370	84	14-160	
Chloroform	ug/L	ND	4000	4170	104	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	3490	87	37-154	
Methylene chloride	ug/L	ND	4000	4440	111	15-156	
Tetrachloroethene	ug/L	ND	4000	3790	94	64-148	
Toluene	ug/L	ND	4000	4210	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4340	109	54-156	
Trichloroethene	ug/L	ND	4000	4350	109	71-157	
Vinyl chloride	ug/L	ND	4000	2950	74	10-160	
Xylene (Total)	ug/L	ND	12000	10600	88	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: OEXT/40915 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60154861001

METHOD BLANK: 1268929 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/11/13 14:57	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/11/13 14:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachloroethane	ug/L	ND	5.0	10/11/13 14:57	
Naphthalene	ug/L	ND	5.0	10/11/13 14:57	
Nitrobenzene	ug/L	ND	5.0	10/11/13 14:57	
Pentachlorophenol	ug/L	ND	5.0	10/11/13 14:57	
Phenol	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Tribromophenol (S)	%	73	39-120	10/11/13 14:57	
2-Fluorobiphenyl (S)	%	77	39-120	10/11/13 14:57	
2-Fluorophenol (S)	%	37	17-120	10/11/13 14:57	
Nitrobenzene-d5 (S)	%	75	33-120	10/11/13 14:57	
Phenol-d6 (S)	%	23	11-120	10/11/13 14:57	
Terphenyl-d14 (S)	%	77	45-120	10/11/13 14:57	

LABORATORY CONTROL SAMPLE: 1268930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	45.5	91	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.5	97	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	52.8	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.5	91	44-116	
Hexachlorocyclopentadiene	ug/L	100	94.3	94	24-120	
Hexachloroethane	ug/L	50	43.8	88	43-113	
Naphthalene	ug/L	50	45.9	92	48-120	
Nitrobenzene	ug/L	50	47.9	96	48-120	
Pentachlorophenol	ug/L	50	52.4	105	47-120	
Phenol	ug/L	50	15.0	30	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			91	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			110	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

MATRIX SPIKE SAMPLE: 1268931

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4110	82	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4600	92	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4970J	99	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3970	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8440	84	11-120	
Hexachloroethane	ug/L	ND	5000	3840	77	40-113	
Naphthalene	ug/L	ND	5000	4320	86	45-120	
Nitrobenzene	ug/L	ND	5000	4320	86	38-120	
Pentachlorophenol	ug/L	ND	5000	5710	114	43-135	
Phenol	ug/L	7350	5000	8980	33	13-112	
2,4,6-Tribromophenol (S)	%				99	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				92	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WET/43851 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154861001

METHOD BLANK: 1267440 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/08/13 07:40	

LABORATORY CONTROL SAMPLE: 1267441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.8	104	78-114	

MATRIX SPIKE SAMPLE: 1267442

Parameter	Units	60154889001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	43.8	103	78-114	

SAMPLE DUPLICATE: 1267443

Parameter	Units	60154877001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.5J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WET/43982 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154861001

METHOD BLANK: 1271156 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/14/13 07:41	

LABORATORY CONTROL SAMPLE: 1271157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.7	98	64-132	

MATRIX SPIKE SAMPLE: 1271161

Parameter	Units	60154764003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	23.4	104	64-132	

SAMPLE DUPLICATE: 1271162

Parameter	Units	60154785002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.4	6.1	31	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WET/43952 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154861001

METHOD BLANK: 1269731 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/11/13 12:50	

SAMPLE DUPLICATE: 1269733

Parameter	Units	60154737001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	11.0	9	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WET/43869
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154861001

SAMPLE DUPLICATE: 1267563

Parameter	Units	60154764003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WET/43848 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154861001

METHOD BLANK: 1267275 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/12/13 10:02	

LABORATORY CONTROL SAMPLE: 1267276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	85-115	

SAMPLE DUPLICATE: 1267277

Parameter	Units	60154861001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31100	29100	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WETA/26550
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154861001

METHOD BLANK: 1268225
Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/09/13 10:46	

LABORATORY CONTROL SAMPLE: 1268226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1268227

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	688	400	1070	97	90-110	

SAMPLE DUPLICATE: 1268228

Parameter	Units	60154868001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	736	731	1	18	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

QC Batch: WETA/26543
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60154861001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154861001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-095
Pace Project No.: 60154861

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154861001	**316-095**	EPA 200.7	MPRP/24659	EPA 200.7	ICP/19170
60154861001	**316-095**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60154861001	**316-095**	EPA 245.1	MERP/7780	EPA 245.1	MERC/7735
60154861001	**316-095**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60154861001	**316-095**	EPA 625	OEXT/40915	EPA 625	MSSV/12981
60154861001	**316-095**	EPA 624 Low	MSV/56841		
60154861002	**TRIP BLANK**	EPA 624 Low	MSV/56841		
60154861001	**316-095**	EPA 1664A	WET/43851		
60154861001	**316-095**	EPA 1664A	WET/43982		
60154861001	**316-095**	SM 2540D	WET/43952		
60154861001	**316-095**	SM 4500-H+B	WET/43869		
60154861001	**316-095**	SM 5210B	WET/43848	SM 5210B	WET/43973
60154861001	**316-095**	EPA 350.1	WETA/26550		
60154861001	**316-095**	EPA 410.4	WETA/26543		

REPORT OF LABORATORY ANALYSIS

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60154861

60154861

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-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: hw 10/7/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
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 volume initial pH ~6.0; added 2.5 mL HNO3; final ~<2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H2SO4 volume initial pH ~6.0; added 2 mL H2SO4; final ~<2.0
		14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: hw Lot # of added preservative: 12570 1-3 12520 4-4
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): SEP 30		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: 10/8/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:

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

Section B Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID	BRIDGETON LF
Container Order Number:	

Section C Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE	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)	60154861 2(AGIH) 2(AG1U) 5(OG4U) 2(BP2U) BP3U BP3N BP3S
1	316-095	OT	G	10/5/13	1544	—	—		14	18	1	1	62						X	X	X	X	X	X	X	X	X	X	X		LOG samples as OQS (01)
2	TRIP BLANK	—	—	—	—	—	—		2	2																X					2(OG4U) (02)
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] /FEEZOR	10-07-13	0900	Bill Stow 412	10-07-13	0900				
SITE ADDRESS: BRIDGETON LF				[signature] /PAS	10/7/13	1300	3.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/6/13

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

October 14, 2013

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

RE: Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
9608 Loiret Blvd.
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CERTIFICATIONS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154867001	**316-096**	Water	10/06/13 09:12	10/07/13 13:00
60154867002	**TRIP BLANK**	Water	10/06/13 09:12	10/07/13 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154867001	**316-096**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154867002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Sample: 316-096 **Lab ID: 60154867001** Collected: 10/06/13 09:12 Received: 10/07/13 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	**9660**	ug/L	150	2	10/10/13 12:00	10/11/13 16:20	7429-90-5	
Antimony	ND	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:21	7440-36-0	D3
Arsenic	**682**	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:21	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/10/13 12:00	10/11/13 16:20	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:21	7440-43-9	
Chromium	**281**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:21	7440-47-3	
Cobalt	**47.1**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:21	7440-48-4	
Copper	ND	ug/L	20.0	2	10/10/13 12:00	10/11/13 16:20	7440-50-8	
Iron	**872000**	ug/L	250	5	10/10/13 12:00	10/14/13 13:21	7439-89-6	
Lead	**169**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:21	7439-92-1	
Nickel	**123**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:21	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/10/13 12:00	10/14/13 13:21	7782-49-2	
Silver	**14.1**	ug/L	14.0	2	10/10/13 12:00	10/11/13 16:20	7440-22-4	
Thallium	ND	ug/L	100	5	10/10/13 12:00	10/14/13 13:21	7440-28-0	
Zinc	**14700**	ug/L	500	10	10/10/13 12:00	10/11/13 16:24	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3310**	ug/L	150	2	10/10/13 21:15	10/11/13 13:36	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:32	7440-36-0	
Arsenic, Dissolved	**602**	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:32	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 13:36	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:32	7440-43-9	D3
Chromium, Dissolved	**226**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:32	7440-47-3	
Cobalt, Dissolved	**37.6**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:32	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 13:36	7440-50-8	
Iron, Dissolved	**563000**	ug/L	100	2	10/10/13 21:15	10/11/13 13:36	7439-89-6	
Lead, Dissolved	**72.2**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:32	7439-92-1	
Nickel, Dissolved	**102**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:32	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 13:32	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 13:36	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 13:32	7440-28-0	
Zinc, Dissolved	**10600**	ug/L	1000	20	10/10/13 21:15	10/11/13 13:23	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.69**	ug/L	0.20	1	10/10/13 16:15	10/11/13 11:31	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	10/11/13 10:15	10/11/13 13:37	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/10/13 00:00	10/11/13 16:24	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Sample: 316-096 **Lab ID: 60154867001** Collected: 10/06/13 09:12 Received: 10/07/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	87-86-5	
Phenol	**7270**	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:24	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	101	%	33-120	2	10/10/13 00:00	10/11/13 16:24	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	10/10/13 00:00	10/11/13 16:24	321-60-8	
Terphenyl-d14 (S)	80	%	45-120	2	10/10/13 00:00	10/11/13 16:24	1718-51-0	
Phenol-d6 (S)	24	%	11-120	2	10/10/13 00:00	10/11/13 16:24	13127-88-3	
2-Fluorophenol (S)	35	%	17-120	2	10/10/13 00:00	10/11/13 16:24	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	10/10/13 00:00	10/11/13 16:24	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/08/13 11:45	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/08/13 11:45	75-27-4	
Bromoform	ND	ug/L	200	200		10/08/13 11:45	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/08/13 11:45	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/08/13 11:45	56-23-5	
Chloroethane	ND	ug/L	200	200		10/08/13 11:45	75-00-3	
Chloroform	ND	ug/L	200	200		10/08/13 11:45	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/08/13 11:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/08/13 11:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 11:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 11:45	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/08/13 11:45	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/08/13 11:45	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/08/13 11:45	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/08/13 11:45	127-18-4	
Toluene	ND	ug/L	200	200		10/08/13 11:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/08/13 11:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/08/13 11:45	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/08/13 11:45	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/08/13 11:45	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/08/13 11:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		10/08/13 11:45	460-00-4	D3
Toluene-d8 (S)	149	%	80-120	200		10/08/13 11:45	2037-26-5	S0
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		10/08/13 11:45	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/08/13 11:45		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**514**	mg/L	5.0	1		10/08/13 07:43		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/14/13 07:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Sample: 316-096 **Lab ID: 60154867001** Collected: 10/06/13 09:12 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1860**	mg/L	5.0	1		10/11/13 12:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.9**	Std. Units	0.10	1		10/08/13 10:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**25600**	mg/L	2.0	1	10/07/13 16:11	10/12/13 10:18		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**716**	mg/L	20.0	200		10/09/13 10:53	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54900**	mg/L	10000	1000		10/09/13 17:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Sample: TRIP BLANK **Lab ID: 60154867002** Collected: 10/06/13 09:12 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/08/13 12:07	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/08/13 12:07	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/08/13 12:07	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/08/13 12:07	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/08/13 12:07	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/08/13 12:07	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/08/13 12:07	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/08/13 12:07	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/08/13 12:07	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 12:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 12:07	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/08/13 12:07	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/08/13 12:07	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/08/13 12:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/08/13 12:07	127-18-4	
Toluene	ND	ug/L	1.0	1		10/08/13 12:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/08/13 12:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/08/13 12:07	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/08/13 12:07	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/08/13 12:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/08/13 12:07	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		10/08/13 12:07	460-00-4	
Toluene-d8 (S)	106	%	80-120	1		10/08/13 12:07	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		10/08/13 12:07	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/08/13 12:07		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: MERP/7808
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154867001

METHOD BLANK: 1269468 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/11/13 11:22	

LABORATORY CONTROL SAMPLE: 1269469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269470 1269471

Parameter	Units	60154868001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	12.3	5	5	13.8	10.0	30	-47	70-130	32	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154867001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: MPRP/24659
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154867001

METHOD BLANK: 1269238 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/11/13 15:08	
Antimony	ug/L	ND	10.0	10/11/13 15:08	
Arsenic	ug/L	ND	10.0	10/11/13 15:08	
Beryllium	ug/L	ND	1.0	10/11/13 15:08	
Cadmium	ug/L	ND	5.0	10/11/13 15:08	
Chromium	ug/L	ND	5.0	10/11/13 15:08	
Cobalt	ug/L	ND	5.0	10/11/13 15:08	
Copper	ug/L	ND	10.0	10/11/13 15:08	
Iron	ug/L	ND	50.0	10/14/13 11:38	
Lead	ug/L	ND	5.0	10/11/13 15:08	
Nickel	ug/L	ND	5.0	10/11/13 15:08	
Selenium	ug/L	ND	15.0	10/11/13 15:08	
Silver	ug/L	ND	7.0	10/11/13 15:08	
Thallium	ug/L	ND	20.0	10/11/13 15:08	
Zinc	ug/L	ND	50.0	10/11/13 15:08	

LABORATORY CONTROL SAMPLE: 1269239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9660	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	953	95	85-115	
Cadmium	ug/L	1000	975	98	85-115	
Chromium	ug/L	1000	934	93	85-115	
Cobalt	ug/L	1000	999	100	85-115	
Copper	ug/L	1000	975	98	85-115	
Iron	ug/L	10000	9850	98	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	934	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7430	10000	10000	19800	20000	123	126	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	864	870	82	83	70-130	1	7	
Arsenic	ug/L	610	1000	1000	1690	1690	108	108	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	892	896	89	90	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Chromium	ug/L	271	1000	1000	1200	1200	93	93	70-130	0	10	
Cobalt	ug/L	43.0	1000	1000	964	968	92	92	70-130	0	6	
Copper	ug/L	ND	1000	1000	1100	1100	110	110	70-130	0	11	
Iron	ug/L	829000	10000	10000	850000	852000	210	235	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1000	998	86	86	70-130	0	10	
Nickel	ug/L	113	1000	1000	1060	1060	94	95	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1090	1090	109	109	70-130	0	10	
Silver	ug/L	14.8	500	500	49.4	52.2	7	7	70-130	6	10	M1
Thallium	ug/L	ND	1000	1000	796	791	80	79	70-130	1	6	
Zinc	ug/L	14700	1000	1000	15700	16000	101	133	70-130	2	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154867001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: MSV/56841
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154867001, 60154867002

METHOD BLANK: 1267526
Matrix: Water
Associated Lab Samples: 60154867001, 60154867002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,2-Dichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/08/13 09:37	
Benzene	ug/L	ND	1.0	10/08/13 09:37	
Bromodichloromethane	ug/L	ND	1.0	10/08/13 09:37	
Bromoform	ug/L	ND	1.0	10/08/13 09:37	
Bromomethane	ug/L	ND	5.0	10/08/13 09:37	
Carbon tetrachloride	ug/L	ND	1.0	10/08/13 09:37	
Chloroethane	ug/L	ND	1.0	10/08/13 09:37	
Chloroform	ug/L	ND	1.0	10/08/13 09:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Ethylbenzene	ug/L	ND	1.0	10/08/13 09:37	
Methylene chloride	ug/L	ND	1.0	10/08/13 09:37	
Tetrachloroethene	ug/L	ND	1.0	10/08/13 09:37	
Toluene	ug/L	ND	1.0	10/08/13 09:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Trichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Vinyl chloride	ug/L	ND	1.0	10/08/13 09:37	
Xylene (Total)	ug/L	ND	3.0	10/08/13 09:37	
1,2-Dichloroethane-d4 (S)	%	102	80-120	10/08/13 09:37	
4-Bromofluorobenzene (S)	%	101	80-120	10/08/13 09:37	
Toluene-d8 (S)	%	107	80-120	10/08/13 09:37	

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.2	111	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.7	89	59-138	
1,1,2-Trichloroethane	ug/L	20	18.5	93	69-127	
1,2-Dichloroethane	ug/L	20	21.4	107	71-129	
1,4-Dichlorobenzene	ug/L	20	18.3	91	68-124	
Benzene	ug/L	20	21.4	107	73-129	
Bromodichloromethane	ug/L	20	20.6	103	63-129	
Bromoform	ug/L	20	17.2	86	52-123	
Bromomethane	ug/L	20	17.0	85	10-160	
Carbon tetrachloride	ug/L	20	21.4	107	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.1	90	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	90	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	18.8	94	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	16.3	81	41-160	
Xylene (Total)	ug/L	60	53.7	90	67-130	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			108	80-120	

MATRIX SPIKE SAMPLE: 1267528

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4110	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3290	82	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3660	92	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4150	104	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3460	83	18-147	
Benzene	ug/L	ND	4000	4320	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3180	80	45-133	
Bromomethane	ug/L	ND	4000	3120	76	10-160	
Carbon tetrachloride	ug/L	ND	4000	4420	111	70-140	
Chloroethane	ug/L	ND	4000	3370	84	14-160	
Chloroform	ug/L	ND	4000	4170	104	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	3490	87	37-154	
Methylene chloride	ug/L	ND	4000	4440	111	15-156	
Tetrachloroethene	ug/L	ND	4000	3790	94	64-148	
Toluene	ug/L	ND	4000	4210	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4340	109	54-156	
Trichloroethene	ug/L	ND	4000	4350	109	71-157	
Vinyl chloride	ug/L	ND	4000	2950	74	10-160	
Xylene (Total)	ug/L	ND	12000	10600	88	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: OEXT/40915
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60154867001

METHOD BLANK: 1268929 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/11/13 14:57	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/11/13 14:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachloroethane	ug/L	ND	5.0	10/11/13 14:57	
Naphthalene	ug/L	ND	5.0	10/11/13 14:57	
Nitrobenzene	ug/L	ND	5.0	10/11/13 14:57	
Pentachlorophenol	ug/L	ND	5.0	10/11/13 14:57	
Phenol	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Tribromophenol (S)	%	73	39-120	10/11/13 14:57	
2-Fluorobiphenyl (S)	%	77	39-120	10/11/13 14:57	
2-Fluorophenol (S)	%	37	17-120	10/11/13 14:57	
Nitrobenzene-d5 (S)	%	75	33-120	10/11/13 14:57	
Phenol-d6 (S)	%	23	11-120	10/11/13 14:57	
Terphenyl-d14 (S)	%	77	45-120	10/11/13 14:57	

LABORATORY CONTROL SAMPLE: 1268930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	45.5	91	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.5	97	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	52.8	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.5	91	44-116	
Hexachlorocyclopentadiene	ug/L	100	94.3	94	24-120	
Hexachloroethane	ug/L	50	43.8	88	43-113	
Naphthalene	ug/L	50	45.9	92	48-120	
Nitrobenzene	ug/L	50	47.9	96	48-120	
Pentachlorophenol	ug/L	50	52.4	105	47-120	
Phenol	ug/L	50	15.0	30	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			91	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			110	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

MATRIX SPIKE SAMPLE: 1268931

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4110	82	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4600	92	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4970J	99	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3970	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8440	84	11-120	
Hexachloroethane	ug/L	ND	5000	3840	77	40-113	
Naphthalene	ug/L	ND	5000	4320	86	45-120	
Nitrobenzene	ug/L	ND	5000	4320	86	38-120	
Pentachlorophenol	ug/L	ND	5000	5710	114	43-135	
Phenol	ug/L	7350	5000	8980	33	13-112	
2,4,6-Tribromophenol (S)	%				99	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				92	45-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WET/43851 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154867001

METHOD BLANK: 1267440 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/08/13 07:40	

LABORATORY CONTROL SAMPLE: 1267441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.8	104	78-114	

MATRIX SPIKE SAMPLE: 1267442

Parameter	Units	60154889001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	43.8	103	78-114	

SAMPLE DUPLICATE: 1267443

Parameter	Units	60154877001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.5J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WET/43982 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154867001

METHOD BLANK: 1271156 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/14/13 07:41	

LABORATORY CONTROL SAMPLE: 1271157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.7	98	64-132	

MATRIX SPIKE SAMPLE: 1271161

Parameter	Units	60154764003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	23.4	104	64-132	

SAMPLE DUPLICATE: 1271162

Parameter	Units	60154785002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.4	6.1	31	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WET/43952 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154867001

METHOD BLANK: 1269731 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/11/13 12:50	

SAMPLE DUPLICATE: 1269733

Parameter	Units	60154737001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	11.0	9	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WET/43869
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154867001

SAMPLE DUPLICATE: 1267563

Parameter	Units	60154764003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WET/43848
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154867001

METHOD BLANK: 1267275 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/12/13 10:02	

LABORATORY CONTROL SAMPLE: 1267276

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	202	102	85-115	

SAMPLE DUPLICATE: 1267277

Parameter	Units	60154861001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31100	29100	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WETA/26550
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154867001

METHOD BLANK: 1268225 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/09/13 10:46	

LABORATORY CONTROL SAMPLE: 1268226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1268227

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	688	400	1070	97	90-110	

SAMPLE DUPLICATE: 1268228

Parameter	Units	60154868001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	736	731	1	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

QC Batch: WETA/26543
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60154867001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154867001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-096
Pace Project No.: 60154867

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154867001	**316-096**	EPA 200.7	MPRP/24659	EPA 200.7	ICP/19170
60154867001	**316-096**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60154867001	**316-096**	EPA 245.1	MERP/7808	EPA 245.1	MERC/7766
60154867001	**316-096**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60154867001	**316-096**	EPA 625	OEXT/40915	EPA 625	MSSV/12981
60154867001	**316-096**	EPA 624 Low	MSV/56841		
60154867002	**TRIP BLANK**	EPA 624 Low	MSV/56841		
60154867001	**316-096**	EPA 1664A	WET/43851		
60154867001	**316-096**	EPA 1664A	WET/43982		
60154867001	**316-096**	SM 2540D	WET/43952		
60154867001	**316-096**	SM 4500-H+B	WET/43869		
60154867001	**316-096**	SM 5210B	WET/43848	SM 5210B	WET/43973
60154867001	**316-096**	EPA 350.1	WETA/26550		
60154867001	**316-096**	EPA 410.4	WETA/26543		

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Sample Condition Upon Receipt

WO#: 60154867

60154867

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 ☑ 2ndL

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.1

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. 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:		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Add h2so4 2.0 to 316-096 BP3S 60/2.0 Add hno3 2.5 to 316-096 BP3N 60/2.5
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: S — Lot # of added preservative: 12520 12510
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sep 30		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: 10/9/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

Section A Required Client Information:		**Section B** Required Project Information:		**Section C** Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.:	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

60154867

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-096 5(DG9U), 2BP2U	OT	G	10/6/13	0912	—	—		13	5	1	1	2	BP3U, BP3S					X	X	X	X	X	X	X	X	X	X	X	BP3N		2(AG1H), 2(AG4U) LOG samples as OQS	001
2	TRIP BLANK 2(DG9U)TB	—		—	—	—	—		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	[signature] / Feezor Eng	10-07-13	0900	Bill Stone 412	10-07-13	0900				
SITE ADDRESS BRIDGETON LF				Shadell McC / PSA	10/7	1300	1.1	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: 10/6/13

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

October 14, 2013

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

RE: Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 07, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154868001	**316-097**	Water	10/07/13 08:45	10/07/13 13:00
60154868002	**TRIP BLANK**	Water	10/07/13 08:45	10/07/13 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154868001	**316-097**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60154868002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Sample: 316-097 **Lab ID: 60154868001** Collected: 10/07/13 08:45 Received: 10/07/13 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	**14300**	ug/L	150	2	10/10/13 12:00	10/11/13 16:30	7429-90-5	
Antimony	ND	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:24	7440-36-0	D3
Arsenic	**723**	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:24	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/10/13 12:00	10/11/13 16:30	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:24	7440-43-9	
Chromium	**292**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:24	7440-47-3	
Cobalt	**48.5**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:24	7440-48-4	
Copper	ND	ug/L	20.0	2	10/10/13 12:00	10/11/13 16:30	7440-50-8	
Iron	**890000**	ug/L	250	5	10/10/13 12:00	10/14/13 13:24	7439-89-6	
Lead	**201**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:24	7439-92-1	
Nickel	**127**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:24	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/10/13 12:00	10/14/13 13:24	7782-49-2	
Silver	**15.5**	ug/L	14.0	2	10/10/13 12:00	10/11/13 16:30	7440-22-4	
Thallium	ND	ug/L	100	5	10/10/13 12:00	10/14/13 13:24	7440-28-0	
Zinc	**12900**	ug/L	500	10	10/10/13 12:00	10/11/13 16:34	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3430**	ug/L	150	2	10/10/13 21:15	10/11/13 14:16	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:19	7440-36-0	
Arsenic, Dissolved	**638**	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:19	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 14:16	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:19	7440-43-9	D3
Chromium, Dissolved	**230**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:19	7440-47-3	
Cobalt, Dissolved	**35.4**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:19	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 14:16	7440-50-8	
Iron, Dissolved	**580000**	ug/L	100	2	10/10/13 21:15	10/11/13 14:16	7439-89-6	
Lead, Dissolved	**73.2**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:19	7439-92-1	
Nickel, Dissolved	**98.0**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:19	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 14:19	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 14:16	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 14:19	7440-28-0	
Zinc, Dissolved	**9700**	ug/L	1000	20	10/10/13 21:15	10/11/13 14:23	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**12.3**	ug/L	0.40	2	10/10/13 16:15	10/11/13 11:57	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	0.20	1	10/11/13 10:15	10/11/13 13:39	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/10/13 00:00	10/11/13 16:45	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Sample: 316-097 **Lab ID: 60154868001** Collected: 10/07/13 08:45 Received: 10/07/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	87-86-5	
Phenol	**7240**	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/10/13 00:00	10/11/13 16:45	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	10/10/13 00:00	10/11/13 16:45	4165-60-0	
2-Fluorobiphenyl (S)	78	%	39-120	2	10/10/13 00:00	10/11/13 16:45	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	10/10/13 00:00	10/11/13 16:45	1718-51-0	
Phenol-d6 (S)	25	%	11-120	2	10/10/13 00:00	10/11/13 16:45	13127-88-3	
2-Fluorophenol (S)	36	%	17-120	2	10/10/13 00:00	10/11/13 16:45	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	10/10/13 00:00	10/11/13 16:45	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/08/13 12:28	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/08/13 12:28	75-27-4	
Bromoform	ND	ug/L	200	200		10/08/13 12:28	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/08/13 12:28	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/08/13 12:28	56-23-5	
Chloroethane	ND	ug/L	200	200		10/08/13 12:28	75-00-3	
Chloroform	ND	ug/L	200	200		10/08/13 12:28	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/08/13 12:28	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/08/13 12:28	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 12:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/08/13 12:28	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/08/13 12:28	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/08/13 12:28	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/08/13 12:28	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/08/13 12:28	127-18-4	
Toluene	ND	ug/L	200	200		10/08/13 12:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/08/13 12:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/08/13 12:28	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/08/13 12:28	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/08/13 12:28	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/08/13 12:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		10/08/13 12:28	460-00-4	D3
Toluene-d8 (S)	106	%	80-120	200		10/08/13 12:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		10/08/13 12:28	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/08/13 12:28		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**340**	mg/L	5.0	1		10/08/13 07:43		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/14/13 07:42		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Sample: 316-097 **Lab ID: 60154868001** Collected: 10/07/13 08:45 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2840**	mg/L	5.0	1		10/11/13 12:55		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		10/08/13 10:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**27600**	mg/L	2.0	1	10/09/13 08:19	10/14/13 08:15		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**736**	mg/L	20.0	200		10/09/13 10:54	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**58500**	mg/L	10000	1000		10/09/13 17:14		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Sample: TRIP BLANK **Lab ID: 60154868002** Collected: 10/07/13 08:45 Received: 10/07/13 13:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/08/13 12:50	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/08/13 12:50	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/08/13 12:50	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/08/13 12:50	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/08/13 12:50	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/08/13 12:50	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/08/13 12:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/08/13 12:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/08/13 12:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 12:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/08/13 12:50	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/08/13 12:50	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/08/13 12:50	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/08/13 12:50	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/08/13 12:50	127-18-4	
Toluene	ND	ug/L	1.0	1		10/08/13 12:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/08/13 12:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/08/13 12:50	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/08/13 12:50	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/08/13 12:50	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/08/13 12:50	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		10/08/13 12:50	460-00-4	
Toluene-d8 (S)	107	%	80-120	1		10/08/13 12:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		10/08/13 12:50	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/08/13 12:50		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: MERP/7808
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60154868001

METHOD BLANK: 1269468 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/11/13 11:22	

LABORATORY CONTROL SAMPLE: 1269469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.0	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269470 1269471

Parameter	Units	60154868001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	12.3	5	5	13.8	10.0	30	-47	70-130	32	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60154868001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: MPRP/24659
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60154868001

METHOD BLANK: 1269238 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/11/13 15:08	
Antimony	ug/L	ND	10.0	10/11/13 15:08	
Arsenic	ug/L	ND	10.0	10/11/13 15:08	
Beryllium	ug/L	ND	1.0	10/11/13 15:08	
Cadmium	ug/L	ND	5.0	10/11/13 15:08	
Chromium	ug/L	ND	5.0	10/11/13 15:08	
Cobalt	ug/L	ND	5.0	10/11/13 15:08	
Copper	ug/L	ND	10.0	10/11/13 15:08	
Iron	ug/L	ND	50.0	10/14/13 11:38	
Lead	ug/L	ND	5.0	10/11/13 15:08	
Nickel	ug/L	ND	5.0	10/11/13 15:08	
Selenium	ug/L	ND	15.0	10/11/13 15:08	
Silver	ug/L	ND	7.0	10/11/13 15:08	
Thallium	ug/L	ND	20.0	10/11/13 15:08	
Zinc	ug/L	ND	50.0	10/11/13 15:08	

LABORATORY CONTROL SAMPLE: 1269239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9660	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	953	95	85-115	
Cadmium	ug/L	1000	975	98	85-115	
Chromium	ug/L	1000	934	93	85-115	
Cobalt	ug/L	1000	999	100	85-115	
Copper	ug/L	1000	975	98	85-115	
Iron	ug/L	10000	9850	98	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	934	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7430	10000	10000	19800	20000	123	126	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	864	870	82	83	70-130	1	7	
Arsenic	ug/L	610	1000	1000	1690	1690	108	108	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	892	896	89	90	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Chromium	ug/L	271	1000	1000	1200	1200	93	93	70-130	0	10	
Cobalt	ug/L	43.0	1000	1000	964	968	92	92	70-130	0	6	
Copper	ug/L	ND	1000	1000	1100	1100	110	110	70-130	0	11	
Iron	ug/L	829000	10000	10000	850000	852000	210	235	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1000	998	86	86	70-130	0	10	
Nickel	ug/L	113	1000	1000	1060	1060	94	95	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1090	1090	109	109	70-130	0	10	
Silver	ug/L	14.8	500	500	49.4	52.2	7	7	70-130	6	10	M1
Thallium	ug/L	ND	1000	1000	796	791	80	79	70-130	1	6	
Zinc	ug/L	14700	1000	1000	15700	16000	101	133	70-130	2	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60154868001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: MSV/56841
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60154868001, 60154868002

METHOD BLANK: 1267526
Matrix: Water
Associated Lab Samples: 60154868001, 60154868002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,2-Dichloroethane	ug/L	ND	1.0	10/08/13 09:37	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/08/13 09:37	
Benzene	ug/L	ND	1.0	10/08/13 09:37	
Bromodichloromethane	ug/L	ND	1.0	10/08/13 09:37	
Bromoform	ug/L	ND	1.0	10/08/13 09:37	
Bromomethane	ug/L	ND	5.0	10/08/13 09:37	
Carbon tetrachloride	ug/L	ND	1.0	10/08/13 09:37	
Chloroethane	ug/L	ND	1.0	10/08/13 09:37	
Chloroform	ug/L	ND	1.0	10/08/13 09:37	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Ethylbenzene	ug/L	ND	1.0	10/08/13 09:37	
Methylene chloride	ug/L	ND	1.0	10/08/13 09:37	
Tetrachloroethene	ug/L	ND	1.0	10/08/13 09:37	
Toluene	ug/L	ND	1.0	10/08/13 09:37	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Trichloroethene	ug/L	ND	1.0	10/08/13 09:37	
Vinyl chloride	ug/L	ND	1.0	10/08/13 09:37	
Xylene (Total)	ug/L	ND	3.0	10/08/13 09:37	
1,2-Dichloroethane-d4 (S)	%	102	80-120	10/08/13 09:37	
4-Bromofluorobenzene (S)	%	101	80-120	10/08/13 09:37	
Toluene-d8 (S)	%	107	80-120	10/08/13 09:37	

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	22.2	111	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.7	89	59-138	
1,1,2-Trichloroethane	ug/L	20	18.5	93	69-127	
1,2-Dichloroethane	ug/L	20	21.4	107	71-129	
1,4-Dichlorobenzene	ug/L	20	18.3	91	68-124	
Benzene	ug/L	20	21.4	107	73-129	
Bromodichloromethane	ug/L	20	20.6	103	63-129	
Bromoform	ug/L	20	17.2	86	52-123	
Bromomethane	ug/L	20	17.0	85	10-160	
Carbon tetrachloride	ug/L	20	21.4	107	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.1	90	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

LABORATORY CONTROL SAMPLE: 1267527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	90	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	18.8	94	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.6	93	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	16.3	81	41-160	
Xylene (Total)	ug/L	60	53.7	90	67-130	
1,2-Dichloroethane-d4 (S)	%			101	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			108	80-120	

MATRIX SPIKE SAMPLE: 1267528

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4110	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3290	82	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3660	92	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4150	104	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3460	83	18-147	
Benzene	ug/L	ND	4000	4320	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3180	80	45-133	
Bromomethane	ug/L	ND	4000	3120	76	10-160	
Carbon tetrachloride	ug/L	ND	4000	4420	111	70-140	
Chloroethane	ug/L	ND	4000	3370	84	14-160	
Chloroform	ug/L	ND	4000	4170	104	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	3490	87	37-154	
Methylene chloride	ug/L	ND	4000	4440	111	15-156	
Tetrachloroethene	ug/L	ND	4000	3790	94	64-148	
Toluene	ug/L	ND	4000	4210	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4340	109	54-156	
Trichloroethene	ug/L	ND	4000	4350	109	71-157	
Vinyl chloride	ug/L	ND	4000	2950	74	10-160	
Xylene (Total)	ug/L	ND	12000	10600	88	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				102	80-120	
Toluene-d8 (S)	%				106	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: OEXT/40915
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60154868001

METHOD BLANK: 1268929 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/11/13 14:57	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/11/13 14:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/11/13 14:57	
Hexachloroethane	ug/L	ND	5.0	10/11/13 14:57	
Naphthalene	ug/L	ND	5.0	10/11/13 14:57	
Nitrobenzene	ug/L	ND	5.0	10/11/13 14:57	
Pentachlorophenol	ug/L	ND	5.0	10/11/13 14:57	
Phenol	ug/L	ND	5.0	10/11/13 14:57	
2,4,6-Tribromophenol (S)	%	73	39-120	10/11/13 14:57	
2-Fluorobiphenyl (S)	%	77	39-120	10/11/13 14:57	
2-Fluorophenol (S)	%	37	17-120	10/11/13 14:57	
Nitrobenzene-d5 (S)	%	75	33-120	10/11/13 14:57	
Phenol-d6 (S)	%	23	11-120	10/11/13 14:57	
Terphenyl-d14 (S)	%	77	45-120	10/11/13 14:57	

LABORATORY CONTROL SAMPLE: 1268930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	45.5	91	46-120	
2,4,6-Trichlorophenol	ug/L	50	48.5	97	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	52.8	106	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.5	91	44-116	
Hexachlorocyclopentadiene	ug/L	100	94.3	94	24-120	
Hexachloroethane	ug/L	50	43.8	88	43-113	
Naphthalene	ug/L	50	45.9	92	48-120	
Nitrobenzene	ug/L	50	47.9	96	48-120	
Pentachlorophenol	ug/L	50	52.4	105	47-120	
Phenol	ug/L	50	15.0	30	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			93	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			91	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			110	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

MATRIX SPIKE SAMPLE: 1268931

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	4110	82	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4600	92	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4970J	99	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3970	79	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	8440	84	11-120	
Hexachloroethane	ug/L	ND	5000	3840	77	40-113	
Naphthalene	ug/L	ND	5000	4320	86	45-120	
Nitrobenzene	ug/L	ND	5000	4320	86	38-120	
Pentachlorophenol	ug/L	ND	5000	5710	114	43-135	
Phenol	ug/L	7350	5000	8980	33	13-112	
2,4,6-Tribromophenol (S)	%				99	39-120	
2-Fluorobiphenyl (S)	%				84	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				113	33-120	
Phenol-d6 (S)	%				26	11-120	
Terphenyl-d14 (S)	%				92	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WET/43851
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60154868001

METHOD BLANK: 1267440 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/08/13 07:40	

LABORATORY CONTROL SAMPLE: 1267441

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.8	104	78-114	

MATRIX SPIKE SAMPLE: 1267442

Parameter	Units	60154889001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	43.8	103	78-114	

SAMPLE DUPLICATE: 1267443

Parameter	Units	60154877001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	1.5J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WET/43982 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60154868001

METHOD BLANK: 1271156 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/14/13 07:41	

LABORATORY CONTROL SAMPLE: 1271157

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.7	98	64-132	

MATRIX SPIKE SAMPLE: 1271161

Parameter	Units	60154764003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.6	23.4	104	64-132	

SAMPLE DUPLICATE: 1271162

Parameter	Units	60154785002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	8.4	6.1	31	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WET/43952 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60154868001

METHOD BLANK: 1269731 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/11/13 12:50	

SAMPLE DUPLICATE: 1269733

Parameter	Units	60154737001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	11.0	9	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WET/43869
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60154868001

SAMPLE DUPLICATE: 1267563

Parameter	Units	60154764003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.5	7.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WET/43887 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60154868001

METHOD BLANK: 1268172 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/14/13 07:51	

LABORATORY CONTROL SAMPLE: 1268173

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	174	88	85-115	

SAMPLE DUPLICATE: 1268174

Parameter	Units	60154874001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	961	910	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WETA/26550
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60154868001

METHOD BLANK: 1268225
Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/09/13 10:46	

LABORATORY CONTROL SAMPLE: 1268226

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.0	101	90-110	

MATRIX SPIKE SAMPLE: 1268227

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	688	400	1070	97	90-110	

SAMPLE DUPLICATE: 1268228

Parameter	Units	60154868001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	736	731	1	18	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: WETA/26543 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60154868001

METHOD BLANK: 1267758 Matrix: Water
Associated Lab Samples: 60154868001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/09/13 17:08	

LABORATORY CONTROL SAMPLE: 1267759

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1267760

Parameter	Units	60154559001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64300	50000	115000	101	90-110	

MATRIX SPIKE SAMPLE: 1267761

Parameter	Units	60154684001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	63700	50000	117000	106	90-110	

MATRIX SPIKE SAMPLE: 1267762

Parameter	Units	60154802001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65900	50000	117000	101	90-110	

MATRIX SPIKE SAMPLE: 1267763

Parameter	Units	60154861001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75200	50000	120000	89	90-110	M1

MATRIX SPIKE SAMPLE: 1267764

Parameter	Units	60154867001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	54900	50000	107000	104	90-110	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

MATRIX SPIKE SAMPLE: 1267765

Parameter	Units	60154868001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	58500	50000	110000	103	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154868001	**316-097**	EPA 200.7	MPRP/24659	EPA 200.7	ICP/19170
60154868001	**316-097**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60154868001	**316-097**	EPA 245.1	MERP/7808	EPA 245.1	MERC/7766
60154868001	**316-097**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60154868001	**316-097**	EPA 625	OEXT/40915	EPA 625	MSSV/12981
60154868001	**316-097**	EPA 624 Low	MSV/56841		
60154868002	**TRIP BLANK**	EPA 624 Low	MSV/56841		
60154868001	**316-097**	EPA 1664A	WET/43851		
60154868001	**316-097**	EPA 1664A	WET/43982		
60154868001	**316-097**	SM 2540D	WET/43952		
60154868001	**316-097**	SM 4500-H+B	WET/43869		
60154868001	**316-097**	SM 5210B	WET/43887	SM 5210B	WET/43992
60154868001	**316-097**	EPA 350.1	WETA/26550		
60154868001	**316-097**	EPA 410.4	WETA/26543		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60154868

60154868

Client Name: Bare

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ N/A

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 ☒ 2ml

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue - None (circle one) ☒ Samples received on ice, cooling process has begun.

Cooler Temperature: 8.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 2 10/7

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add HNO3 to 3116-097 BP3N 5.0/2.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Add H2SO4 to 3116-097 BP3S 5.0/2.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed: S Lot # of added preservative: 12510 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sep 30		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: 10/9/12

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

60154868

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-097 2(BP2U), 2(AG1H)	OT	G	10/07/13	0845	2(AG4U)			16	11	1	1	3	BP3S	B	P3	N		X	X	X	X	X	X	X	X	X	X	X	BP3U		5(DG9U) LCG samples as OQS 001
2	TRIP BLANK 2(DG9U) TB								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,Ti,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng	10-07-13	0900	Bill Stone 412	10-07-13	0900				
SITE ADDRESS: BRIDGETON LF				[signature] MGF / PSA	10/7	~~1800~~ 10/7 1300	8.9	Y	N	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-07-13

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

October 16, 2013

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

RE: Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 09, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155023001	**316-098**	Water	10/08/13 10:30	10/09/13 02:00
60155023002	**TRIP BLANK**	Water	10/08/13 10:30	10/09/13 02:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155023001	**316-098**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	JML	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155023002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Sample: 316-098 **Lab ID: 60155023001** Collected: 10/08/13 10:30 Received: 10/09/13 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	**9880**	ug/L	150	2	10/10/13 12:00	10/11/13 16:40	7429-90-5	
Antimony	**54.2**	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:28	7440-36-0	
Arsenic	**798**	ug/L	50.0	5	10/10/13 12:00	10/14/13 13:28	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/10/13 12:00	10/11/13 16:40	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:28	7440-43-9	
Chromium	**302**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:28	7440-47-3	
Cobalt	**51.2**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:28	7440-48-4	
Copper	ND	ug/L	20.0	2	10/10/13 12:00	10/11/13 16:40	7440-50-8	
Iron	**978000**	ug/L	250	5	10/10/13 12:00	10/14/13 13:28	7439-89-6	
Lead	**173**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:28	7439-92-1	
Nickel	**130**	ug/L	25.0	5	10/10/13 12:00	10/14/13 13:28	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/10/13 12:00	10/14/13 13:28	7782-49-2	
Silver	**17.3**	ug/L	14.0	2	10/10/13 12:00	10/11/13 16:40	7440-22-4	
Thallium	ND	ug/L	100	5	10/10/13 12:00	10/14/13 13:28	7440-28-0	
Zinc	**15200**	ug/L	500	10	10/10/13 12:00	10/11/13 16:44	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2870**	ug/L	150	2	10/10/13 21:15	10/11/13 13:39	7429-90-5	
Antimony, Dissolved	**51.3**	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:43	7440-36-0	
Arsenic, Dissolved	**716**	ug/L	50.0	5	10/10/13 21:15	10/11/13 13:43	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 13:39	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:43	7440-43-9	D3
Chromium, Dissolved	**237**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:43	7440-47-3	
Cobalt, Dissolved	**40.3**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:43	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 13:39	7440-50-8	
Iron, Dissolved	**362000**	ug/L	100	2	10/10/13 21:15	10/11/13 13:39	7439-89-6	M1
Lead, Dissolved	**59.0**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:43	7439-92-1	M1
Nickel, Dissolved	**102**	ug/L	25.0	5	10/10/13 21:15	10/11/13 13:43	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 13:43	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 13:39	7440-22-4	M1
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 13:43	7440-28-0	
Zinc, Dissolved	**11800**	ug/L	1000	20	10/10/13 21:15	10/11/13 13:46	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.66**	ug/L	0.20	1	10/10/13 10:00	10/10/13 15:00	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	0.20	1	10/11/13 10:15	10/11/13 13:44	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Phenol	**9390**	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	108-95-2	
Nitrobenzene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	98-95-3	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	120-82-1	
Naphthalene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	91-20-3	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	77-47-4	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Sample: 316-098 **Lab ID: 60155023001** Collected: 10/08/13 10:30 Received: 10/09/13 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							
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	88-06-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/12/13 00:00	10/14/13 16:49	534-52-1	
Pentachlorophenol	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	87-86-5	
Hexachloroethane	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 16:49	67-72-1	
Surrogates								
Nitrobenzene-d5 (S)	92	%	33-120	2	10/12/13 00:00	10/14/13 16:49	4165-60-0	
2-Fluorobiphenyl (S)	68	%	39-120	2	10/12/13 00:00	10/14/13 16:49	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	10/12/13 00:00	10/14/13 16:49	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	10/12/13 00:00	10/14/13 16:49	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	10/12/13 00:00	10/14/13 16:49	367-12-4	
2,4,6-Tribromophenol (S)	82	%	39-120	2	10/12/13 00:00	10/14/13 16:49	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/11/13 21:14	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/11/13 21:14	75-27-4	
Bromoform	ND	ug/L	200	200		10/11/13 21:14	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/11/13 21:14	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/11/13 21:14	56-23-5	
Chloroethane	ND	ug/L	200	200		10/11/13 21:14	75-00-3	
Chloroform	ND	ug/L	200	200		10/11/13 21:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/11/13 21:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/11/13 21:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/11/13 21:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/11/13 21:14	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/11/13 21:14	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/11/13 21:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/11/13 21:14	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/11/13 21:14	127-18-4	
Toluene	ND	ug/L	200	200		10/11/13 21:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/11/13 21:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/11/13 21:14	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/11/13 21:14	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/11/13 21:14	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/11/13 21:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		10/11/13 21:14	460-00-4	D3
Toluene-d8 (S)	104	%	80-120	200		10/11/13 21:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	200		10/11/13 21:14	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/11/13 21:14		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**452**	mg/L	5.0	1		10/10/13 07:25		M1
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/15/13 14:07		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Sample: 316-098 **Lab ID: 60155023001** Collected: 10/08/13 10:30 Received: 10/09/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1640**	mg/L	5.0	1		10/14/13 13:32		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/11/13 15:25		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**29700**	mg/L	2.0	1	10/10/13 09:20	10/15/13 08:59		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**761**	mg/L	20.0	200		10/14/13 12:00	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**70100**	mg/L	10000	1000		10/15/13 14:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Sample: TRIP BLANK **Lab ID: 60155023002** Collected: 10/08/13 10:30 Received: 10/09/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/11/13 21:56	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/11/13 21:56	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/11/13 21:56	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/11/13 21:56	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/11/13 21:56	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/11/13 21:56	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/11/13 21:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/11/13 21:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/11/13 21:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/11/13 21:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/11/13 21:56	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/11/13 21:56	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/11/13 21:56	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/11/13 21:56	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/11/13 21:56	127-18-4	
Toluene	ND	ug/L	1.0	1		10/11/13 21:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/11/13 21:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/11/13 21:56	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/11/13 21:56	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/11/13 21:56	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/11/13 21:56	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/11/13 21:56	460-00-4	
Toluene-d8 (S)	104	%	80-120	1		10/11/13 21:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		10/11/13 21:56	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/11/13 21:56		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MERP/7800 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155023001

METHOD BLANK: 1269061 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/10/13 14:56	

LABORATORY CONTROL SAMPLE: 1269062

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269063 1269064

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.66	5	5	1.0	10	7	186	70-130	163	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155023001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MPRP/24659
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155023001

METHOD BLANK: 1269238 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/11/13 15:08	
Antimony	ug/L	ND	10.0	10/11/13 15:08	
Arsenic	ug/L	ND	10.0	10/11/13 15:08	
Beryllium	ug/L	ND	1.0	10/11/13 15:08	
Cadmium	ug/L	ND	5.0	10/11/13 15:08	
Chromium	ug/L	ND	5.0	10/11/13 15:08	
Cobalt	ug/L	ND	5.0	10/11/13 15:08	
Copper	ug/L	ND	10.0	10/11/13 15:08	
Iron	ug/L	ND	50.0	10/14/13 11:38	
Lead	ug/L	ND	5.0	10/11/13 15:08	
Nickel	ug/L	ND	5.0	10/11/13 15:08	
Selenium	ug/L	ND	15.0	10/11/13 15:08	
Silver	ug/L	ND	7.0	10/11/13 15:08	
Thallium	ug/L	ND	20.0	10/11/13 15:08	
Zinc	ug/L	ND	50.0	10/11/13 15:08	

LABORATORY CONTROL SAMPLE: 1269239

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9660	97	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	954	95	85-115	
Beryllium	ug/L	1000	953	95	85-115	
Cadmium	ug/L	1000	975	98	85-115	
Chromium	ug/L	1000	934	93	85-115	
Cobalt	ug/L	1000	999	100	85-115	
Copper	ug/L	1000	975	98	85-115	
Iron	ug/L	10000	9850	98	85-115	
Lead	ug/L	1000	987	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	468	94	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	934	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7430	10000	10000	19800	20000	123	126	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269240 1269241

Parameter	Units	60154861001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	864	870	82	83	70-130	1	7	
Arsenic	ug/L	610	1000	1000	1690	1690	108	108	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	892	896	89	90	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Chromium	ug/L	271	1000	1000	1200	1200	93	93	70-130	0	10	
Cobalt	ug/L	43.0	1000	1000	964	968	92	92	70-130	0	6	
Copper	ug/L	ND	1000	1000	1100	1100	110	110	70-130	0	11	
Iron	ug/L	829000	10000	10000	850000	852000	210	235	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1000	998	86	86	70-130	0	10	
Nickel	ug/L	113	1000	1000	1060	1060	94	95	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1090	1090	109	109	70-130	0	10	
Silver	ug/L	14.8	500	500	49.4	52.2	7	7	70-130	6	10	M1
Thallium	ug/L	ND	1000	1000	796	791	80	79	70-130	1	6	
Zinc	ug/L	14700	1000	1000	15700	16000	101	133	70-130	2	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155023001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MSV/56931 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155023001, 60155023002

METHOD BLANK: 1269916 Matrix: Water
Associated Lab Samples: 60155023001, 60155023002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/11/13 17:40	
Benzene	ug/L	ND	1.0	10/11/13 17:40	
Bromodichloromethane	ug/L	ND	1.0	10/11/13 17:40	
Bromoform	ug/L	ND	1.0	10/11/13 17:40	
Bromomethane	ug/L	ND	5.0	10/11/13 17:40	
Carbon tetrachloride	ug/L	ND	1.0	10/11/13 17:40	
Chloroethane	ug/L	ND	1.0	10/11/13 17:40	
Chloroform	ug/L	ND	1.0	10/11/13 17:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Ethylbenzene	ug/L	ND	1.0	10/11/13 17:40	
Methylene chloride	ug/L	ND	1.0	10/11/13 17:40	
Tetrachloroethene	ug/L	ND	1.0	10/11/13 17:40	
Toluene	ug/L	ND	1.0	10/11/13 17:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Trichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Vinyl chloride	ug/L	ND	1.0	10/11/13 17:40	
Xylene (Total)	ug/L	ND	3.0	10/11/13 17:40	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/11/13 17:40	
4-Bromofluorobenzene (S)	%	100	80-120	10/11/13 17:40	
Toluene-d8 (S)	%	103	80-120	10/11/13 17:40	

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.8	89	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	59-138	
1,1,2-Trichloroethane	ug/L	20	17.1	85	69-127	
1,2-Dichloroethane	ug/L	20	20.1	100	71-129	
1,4-Dichlorobenzene	ug/L	20	20.1	100	68-124	
Benzene	ug/L	20	20.0	100	73-129	
Bromodichloromethane	ug/L	20	17.2	86	63-129	
Bromoform	ug/L	20	19.9	100	52-123	
Bromomethane	ug/L	20	18.5	93	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	16.7	84	42-160	
Chloroform	ug/L	20	18.0	90	60-120	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.5	98	66-133	
Methylene chloride	ug/L	20	17.1	86	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.1	91	67-149	
Trichloroethene	ug/L	20	19.2	96	71-130	
Vinyl chloride	ug/L	20	15.2	76	41-160	
Xylene (Total)	ug/L	60	59.6	99	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1269918

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3590	87	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3230	81	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4020	101	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3800	93	18-147	
Benzene	ug/L	ND	4000	4190	102	37-151	
Bromodichloromethane	ug/L	ND	4000	3550	88	35-155	
Bromoform	ug/L	ND	4000	3610	90	45-133	
Bromomethane	ug/L	ND	4000	2360	58	10-160	
Carbon tetrachloride	ug/L	ND	4000	4230	106	70-140	
Chloroethane	ug/L	ND	4000	3800	91	14-160	
Chloroform	ug/L	ND	4000	3840	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	19-160	
Ethylbenzene	ug/L	ND	4000	3930	96	37-154	
Methylene chloride	ug/L	ND	4000	3530	86	15-156	
Tetrachloroethene	ug/L	ND	4000	4030	100	64-148	
Toluene	ug/L	ND	4000	3990	99	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3870	97	54-156	
Trichloroethene	ug/L	ND	4000	4110	103	71-157	
Vinyl chloride	ug/L	ND	4000	3360	84	10-160	
Xylene (Total)	ug/L	ND	12000	11100	93	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				105	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: OEXT/40951 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155023001

METHOD BLANK: 1270713 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/14/13 15:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/14/13 15:27	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/14/13 15:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/14/13 15:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/14/13 15:27	
Hexachloroethane	ug/L	ND	5.0	10/14/13 15:27	
Naphthalene	ug/L	ND	5.0	10/14/13 15:27	
Nitrobenzene	ug/L	ND	5.0	10/14/13 15:27	
Pentachlorophenol	ug/L	ND	5.0	10/14/13 15:27	
Phenol	ug/L	ND	5.0	10/14/13 15:27	
2,4,6-Tribromophenol (S)	%	69	39-120	10/14/13 15:27	
2-Fluorobiphenyl (S)	%	66	39-120	10/14/13 15:27	
2-Fluorophenol (S)	%	45	17-120	10/14/13 15:27	
Nitrobenzene-d5 (S)	%	62	33-120	10/14/13 15:27	
Phenol-d6 (S)	%	29	11-120	10/14/13 15:27	
Terphenyl-d14 (S)	%	74	45-120	10/14/13 15:27	

LABORATORY CONTROL SAMPLE: 1270714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.8	68	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.6	69	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.8	76	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.4	71	44-116	
Hexachlorocyclopentadiene	ug/L	100	58.4	58	24-120	
Hexachloroethane	ug/L	50	28.9	58	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	32.6	65	48-120	
Pentachlorophenol	ug/L	50	32.4	65	47-120	
Phenol	ug/L	50	15.9	32	16-112	
2,4,6-Tribromophenol (S)	%			88	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			64	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			80	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

MATRIX SPIKE SAMPLE: 1270715

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2860	57	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3480	70	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3500J	70	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3040	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5450	55	11-120	
Hexachloroethane	ug/L	ND	5000	2560	51	40-113	
Naphthalene	ug/L	ND	5000	3180	64	45-120	
Nitrobenzene	ug/L	ND	5000	2890	58	38-120	
Pentachlorophenol	ug/L	ND	5000	4070	81	43-135	
Phenol	ug/L	9390	5000	10300	17	13-112	
2,4,6-Tribromophenol (S)	%				78	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				86	33-120	
Phenol-d6 (S)	%				28	11-120	
Terphenyl-d14 (S)	%				70	45-120	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WET/43917 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155023001

METHOD BLANK: 1268903 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/10/13 07:24	

LABORATORY CONTROL SAMPLE: 1268904

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: 1268907

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	452	43.5	520	157	78-114	M1

SAMPLE DUPLICATE: 1268906

Parameter	Units	60154927002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	3.1J		18	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155023001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WET/44001
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155023001

METHOD BLANK: 1271658
Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/14/13 13:27	

SAMPLE DUPLICATE: 1271659

Parameter	Units	60155049006 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1271660

Parameter	Units	60154968001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4400	4280	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WET/43966
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155023001

SAMPLE DUPLICATE: 1270441

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.6	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WET/43916 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155023001

METHOD BLANK: 1268900 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/15/13 07:55	

LABORATORY CONTROL SAMPLE: 1268901

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1268902

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	29700	28900	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WETA/26651 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155023001

METHOD BLANK: 1271346 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/14/13 11:58	

LABORATORY CONTROL SAMPLE: 1271347

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

MATRIX SPIKE SAMPLE: 1271348

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	761	400	1100	84	90-110	M1

SAMPLE DUPLICATE: 1271349

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	755	768	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: WETA/26658 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155023001

METHOD BLANK: 1271379 Matrix: Water
Associated Lab Samples: 60155023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/15/13 14:43	

LABORATORY CONTROL SAMPLE: 1271380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.5	109	90-110	

MATRIX SPIKE SAMPLE: 1271381

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70100	50000	121000	101	90-110	

MATRIX SPIKE SAMPLE: 1271382

Parameter	Units	60155141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80000	50000	129000	98	90-110	

MATRIX SPIKE SAMPLE: 1271383

Parameter	Units	60155222001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	98000	50000	142000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155023001	**316-098**	EPA 200.7	MPRP/24659	EPA 200.7	ICP/19170
60155023001	**316-098**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60155023001	**316-098**	EPA 245.1	MERP/7800	EPA 245.1	MERC/7757
60155023001	**316-098**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60155023001	**316-098**	EPA 625	OEXT/40951	EPA 625	MSSV/12990
60155023001	**316-098**	EPA 624 Low	MSV/56931		
60155023002	**TRIP BLANK**	EPA 624 Low	MSV/56931		
60155023001	**316-098**	EPA 1664A	WET/43917		
60155023001	**316-098**	EPA 1664A	WET/44024		
60155023001	**316-098**	SM 2540D	WET/44001		
60155023001	**316-098**	SM 4500-H+B	WET/43966		
60155023001	**316-098**	SM 5210B	WET/43916	SM 5210B	WET/44020
60155023001	**316-098**	EPA 350.1	WETA/26651		
60155023001	**316-098**	EPA 410.4	WETA/26658		

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Sample Condition Upon Receipt

WO# : 60155023

60155023

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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-112 T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8 10/9

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. 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: WW		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add hno3 to 310-098 BP3N 5.0/35
All containers needing preservation are found to be in compliance with EPA recommendation. 8 10/9	☒Yes ☐No ☐N/A	Add #2504 to 310-098 BP3S 5.0/2.5
Exceptions (VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed: S. Lot # of added preservative: 12510 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sup 30		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.:	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

60155023

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)		
1	316-098 5(DG9U) 2(AG1H)	OT	G	10/08/13	1030	2(BP2U)			16	11	1	1	3	BP3S,	BP3N				X	X	X	X	X	X	X	X	X	X	X	BP3U		LOG samples as OQS	001
2	TRIP BLANK								2	2																X						2(DG9U)TB	002
3																																	
4																																	
5																																	
6																																METALS LIST total & LF Dis:	
7																																Al,Sb,As,Be,Cd,Cr,	
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																																and Mercury	
10																																	
11																																	
12																																	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Paul Unsworth / FEI, INC	10/8/13	2:30pm	[illegible] #776	10/8/13	2:30pm				
SITE ADDRESS: BRIDGETON LF				[illegible] / PASI	10/9	0200	1.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-08-13

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

October 17, 2013

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

RE: Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155141001	**316-099**	Water	10/09/13 10:20	10/10/13 01:35
60155141002	**TRIP BLANK**	Water	10/09/13 10:20	10/10/13 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155141001	**316-099**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	JML	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155141002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Sample: 316-099 **Lab ID: 60155141001** Collected: 10/09/13 10:20 Received: 10/10/13 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	**10400**	ug/L	150	2	10/11/13 14:05	10/15/13 13:28	7429-90-5	M1
Antimony	**74.7**	ug/L	20.0	2	10/11/13 14:05	10/15/13 13:28	7440-36-0	
Arsenic	**857**	ug/L	20.0	2	10/11/13 14:05	10/15/13 13:28	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/11/13 14:05	10/15/13 13:28	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/11/13 14:05	10/15/13 13:28	7440-43-9	
Chromium	**319**	ug/L	25.0	5	10/11/13 14:05	10/15/13 13:45	7440-47-3	
Cobalt	**54.2**	ug/L	10.0	2	10/11/13 14:05	10/15/13 13:28	7440-48-4	
Copper	ND	ug/L	20.0	2	10/11/13 14:05	10/15/13 13:28	7440-50-8	
Iron	**973000**	ug/L	100	2	10/11/13 14:05	10/15/13 13:28	7439-89-6	M1
Lead	**176**	ug/L	10.0	2	10/11/13 14:05	10/15/13 13:28	7439-92-1	
Nickel	**118**	ug/L	10.0	2	10/11/13 14:05	10/15/13 13:28	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/11/13 14:05	10/15/13 13:45	7782-49-2	
Silver	ND	ug/L	14.0	2	10/11/13 14:05	10/15/13 13:28	7440-22-4	M1
Thallium	ND	ug/L	100	5	10/11/13 14:05	10/15/13 13:45	7440-28-0	D3
Zinc	**14300**	ug/L	1000	20	10/11/13 14:05	10/15/13 13:49	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3860**	ug/L	150	2	10/10/13 21:15	10/11/13 14:36	7429-90-5	
Antimony, Dissolved	**55.2**	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:39	7440-36-0	
Arsenic, Dissolved	**750**	ug/L	50.0	5	10/10/13 21:15	10/11/13 14:39	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/10/13 21:15	10/11/13 14:36	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:39	7440-43-9	D3
Chromium, Dissolved	**255**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:39	7440-47-3	
Cobalt, Dissolved	**43.3**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:39	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/10/13 21:15	10/11/13 14:36	7440-50-8	
Iron, Dissolved	**643000**	ug/L	100	2	10/10/13 21:15	10/11/13 14:36	7439-89-6	
Lead, Dissolved	**67.9**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:39	7439-92-1	
Nickel, Dissolved	**98.7**	ug/L	25.0	5	10/10/13 21:15	10/11/13 14:39	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/10/13 21:15	10/11/13 14:39	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/10/13 21:15	10/11/13 14:36	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/10/13 21:15	10/11/13 14:39	7440-28-0	
Zinc, Dissolved	**11500**	ug/L	1000	20	10/10/13 21:15	10/11/13 14:43	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.31**	ug/L	0.20	1	10/10/13 13:30	10/11/13 14:45	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	0.20	1	10/11/13 10:15	10/11/13 13:48	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/12/13 00:00	10/14/13 17:10	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Sample: 316-099 **Lab ID: 60155141001** Collected: 10/09/13 10:20 Received: 10/10/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	87-86-5	
Phenol	**8820**	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/12/13 00:00	10/14/13 17:10	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	80	%	33-120	2	10/12/13 00:00	10/14/13 17:10	4165-60-0	
2-Fluorobiphenyl (S)	58	%	39-120	2	10/12/13 00:00	10/14/13 17:10	321-60-8	
Terphenyl-d14 (S)	64	%	45-120	2	10/12/13 00:00	10/14/13 17:10	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	10/12/13 00:00	10/14/13 17:10	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	2	10/12/13 00:00	10/14/13 17:10	367-12-4	
2,4,6-Tribromophenol (S)	67	%	39-120	2	10/12/13 00:00	10/14/13 17:10	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/11/13 23:01	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/11/13 23:01	75-27-4	
Bromoform	ND	ug/L	200	200		10/11/13 23:01	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/11/13 23:01	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/11/13 23:01	56-23-5	
Chloroethane	ND	ug/L	200	200		10/11/13 23:01	75-00-3	
Chloroform	ND	ug/L	200	200		10/11/13 23:01	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/11/13 23:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/11/13 23:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/11/13 23:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/11/13 23:01	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/11/13 23:01	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/11/13 23:01	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/11/13 23:01	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/11/13 23:01	127-18-4	
Toluene	ND	ug/L	200	200		10/11/13 23:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/11/13 23:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/11/13 23:01	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/11/13 23:01	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/11/13 23:01	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/11/13 23:01	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		10/11/13 23:01	460-00-4	D3
Toluene-d8 (S)	106	%	80-120	200		10/11/13 23:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		10/11/13 23:01	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/11/13 23:01		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**420**	mg/L	5.0	1		10/11/13 07:43		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/15/13 14:07		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Sample: 316-099 **Lab ID: 60155141001** Collected: 10/09/13 10:20 Received: 10/10/13 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4220**	mg/L	5.0	1		10/16/13 11:17		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/12/13 09:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**30500**	mg/L	2.0	1	10/11/13 09:03	10/16/13 09:44		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**728**	mg/L	20.0	200		10/14/13 12:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**80000**	mg/L	10000	1000		10/15/13 14:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Sample: TRIP BLANK **Lab ID: 60155141002** Collected: 10/09/13 10:20 Received: 10/10/13 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/14/13 14:17	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/14/13 14:17	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/14/13 14:17	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/14/13 14:17	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/14/13 14:17	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/14/13 14:17	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/14/13 14:17	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/14/13 14:17	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/14/13 14:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/14/13 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/14/13 14:17	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/14/13 14:17	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/14/13 14:17	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/14/13 14:17	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/14/13 14:17	127-18-4	
Toluene	ND	ug/L	1.0	1		10/14/13 14:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/14/13 14:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/14/13 14:17	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/14/13 14:17	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/14/13 14:17	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/14/13 14:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		10/14/13 14:17	460-00-4	
Toluene-d8 (S)	106	%	80-120	1		10/14/13 14:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	1		10/14/13 14:17	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/14/13 14:17		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MERP/7804
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155141001

METHOD BLANK: 1269301 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/11/13 14:40	

LABORATORY CONTROL SAMPLE: 1269302

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	91	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269303 1269304

Parameter	Units	60155141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.31	5	5	0.50	0.84	4	11	70-130	51	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MERP/7811
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155141001

METHOD BLANK: 1269859 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/11/13 13:28	

LABORATORY CONTROL SAMPLE: 1269860

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.0	100	85-115	

SAMPLE DUPLICATE: 1269892

Parameter	Units	60155023001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	8.9		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MPRP/24692
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155141001

METHOD BLANK: 1270304 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/15/13 13:25	
Antimony	ug/L	ND	10.0	10/15/13 13:25	
Arsenic	ug/L	ND	10.0	10/15/13 13:25	
Beryllium	ug/L	ND	1.0	10/15/13 13:25	
Cadmium	ug/L	ND	5.0	10/15/13 13:25	
Chromium	ug/L	ND	5.0	10/15/13 13:25	
Cobalt	ug/L	ND	5.0	10/15/13 13:25	
Copper	ug/L	ND	10.0	10/15/13 13:25	
Iron	ug/L	ND	50.0	10/15/13 13:25	
Lead	ug/L	ND	5.0	10/15/13 13:25	
Nickel	ug/L	ND	5.0	10/15/13 13:25	
Selenium	ug/L	ND	15.0	10/15/13 13:25	
Silver	ug/L	ND	7.0	10/15/13 13:25	
Thallium	ug/L	ND	20.0	10/15/13 13:25	
Zinc	ug/L	ND	50.0	10/15/13 13:25	

LABORATORY CONTROL SAMPLE: 1270305

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	1000	100	85-115	
Beryllium	ug/L	1000	1060	106	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	989	99	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1030	103	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	504	101	85-115	
Thallium	ug/L	1000	985	98	85-115	
Zinc	ug/L	1000	1100	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270306 1270307

Parameter	Units	60155141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	10400	10000	10000	24900	25200	145	148	70-130	1	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1270306 1270307

Parameter	Units	60155141001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	74.7	1000	1000	846	865	77	79	70-130	2	7	
Arsenic	ug/L	857	1000	1000	1910	1970	105	111	70-130	3	10	
Beryllium	ug/L	ND	1000	1000	913	919	91	92	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	999	1020	100	102	70-130	2	10	
Chromium	ug/L	319	1000	1000	1260	1240	94	93	70-130	1	10	
Cobalt	ug/L	54.2	1000	1000	968	985	91	93	70-130	2	6	
Copper	ug/L	ND	1000	1000	991	1030	98	102	70-130	4	11	
Iron	ug/L	973000	10000	10000	965000	975000	-82	12	70-130	1	10	M1
Lead	ug/L	176	1000	1000	1000	1030	82	85	70-130	3	10	
Nickel	ug/L	118	1000	1000	1010	1030	90	91	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1010	976	101	98	70-130	3	10	
Silver	ug/L	ND	500	500	33.3	36.3	4	5	70-130	9	10	M1
Thallium	ug/L	ND	1000	1000	768	758	77	76	70-130	1	6	
Zinc	ug/L	14300	1000	1000	15100	14500	80	22	70-130	4	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MPRP/24677
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155141001

METHOD BLANK: 1269614 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/11/13 12:53	
Antimony, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/11/13 12:53	
Cadmium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Chromium, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Copper, Dissolved	ug/L	ND	10.0	10/11/13 12:53	
Iron, Dissolved	ug/L	ND	50.0	10/11/13 12:53	
Lead, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Nickel, Dissolved	ug/L	ND	5.0	10/11/13 12:53	
Selenium, Dissolved	ug/L	ND	15.0	10/11/13 12:53	
Silver, Dissolved	ug/L	ND	7.0	10/11/13 12:53	
Thallium, Dissolved	ug/L	ND	20.0	10/11/13 12:53	
Zinc, Dissolved	ug/L	ND	50.0	10/11/13 12:53	

LABORATORY CONTROL SAMPLE: 1269615

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9440	94	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	959	96	85-115	
Cadmium, Dissolved	ug/L	1000	974	97	85-115	
Chromium, Dissolved	ug/L	1000	924	92	85-115	
Cobalt, Dissolved	ug/L	1000	998	100	85-115	
Copper, Dissolved	ug/L	1000	988	99	85-115	
Iron, Dissolved	ug/L	10000	9430	94	85-115	
Lead, Dissolved	ug/L	1000	972	97	85-115	
Nickel, Dissolved	ug/L	1000	999	100	85-115	
Selenium, Dissolved	ug/L	1000	977	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	926	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 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	2870	10000	10000	13300	12800	104	99	70-130	4	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1269616 1269617

Parameter	Units	60155023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	51.3	1000	1000	1030	995	98	94	70-130	3	7	
Arsenic, Dissolved	ug/L	716	1000	1000	1580	1560	87	84	70-130	2	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	890	856	89	86	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1050	998	105	100	70-130	5	10	
Chromium, Dissolved	ug/L	237	1000	1000	1080	1050	85	82	70-130	3	10	
Cobalt, Dissolved	ug/L	40.3	1000	1000	996	946	96	91	70-130	5	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	971	100	97	70-130	3	11	
Iron, Dissolved	ug/L	362000	10000	10000	399000	376000	376	140	70-130	6	10	M1
Lead, Dissolved	ug/L	59.0	1000	1000	740	752	68	69	70-130	2	10	M1
Nickel, Dissolved	ug/L	102	1000	1000	1040	1000	94	90	70-130	4	10	
Selenium, Dissolved	ug/L	ND	1000	1000	922	928	92	92	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	57.7	60.0	10	10	70-130	4	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	766	728	77	73	70-130	5	6	
Zinc, Dissolved	ug/L	11800	1000	1000	12800	12600	101	80	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MSV/56931
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155141001

METHOD BLANK: 1269916
Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/11/13 17:40	
Benzene	ug/L	ND	1.0	10/11/13 17:40	
Bromodichloromethane	ug/L	ND	1.0	10/11/13 17:40	
Bromoform	ug/L	ND	1.0	10/11/13 17:40	
Bromomethane	ug/L	ND	5.0	10/11/13 17:40	
Carbon tetrachloride	ug/L	ND	1.0	10/11/13 17:40	
Chloroethane	ug/L	ND	1.0	10/11/13 17:40	
Chloroform	ug/L	ND	1.0	10/11/13 17:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Ethylbenzene	ug/L	ND	1.0	10/11/13 17:40	
Methylene chloride	ug/L	ND	1.0	10/11/13 17:40	
Tetrachloroethene	ug/L	ND	1.0	10/11/13 17:40	
Toluene	ug/L	ND	1.0	10/11/13 17:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Trichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Vinyl chloride	ug/L	ND	1.0	10/11/13 17:40	
Xylene (Total)	ug/L	ND	3.0	10/11/13 17:40	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/11/13 17:40	
4-Bromofluorobenzene (S)	%	100	80-120	10/11/13 17:40	
Toluene-d8 (S)	%	103	80-120	10/11/13 17:40	

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.8	89	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	59-138	
1,1,2-Trichloroethane	ug/L	20	17.1	85	69-127	
1,2-Dichloroethane	ug/L	20	20.1	100	71-129	
1,4-Dichlorobenzene	ug/L	20	20.1	100	68-124	
Benzene	ug/L	20	20.0	100	73-129	
Bromodichloromethane	ug/L	20	17.2	86	63-129	
Bromoform	ug/L	20	19.9	100	52-123	
Bromomethane	ug/L	20	18.5	93	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	16.7	84	42-160	
Chloroform	ug/L	20	18.0	90	60-120	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.5	98	66-133	
Methylene chloride	ug/L	20	17.1	86	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.1	91	67-149	
Trichloroethene	ug/L	20	19.2	96	71-130	
Vinyl chloride	ug/L	20	15.2	76	41-160	
Xylene (Total)	ug/L	60	59.6	99	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1269918

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3590	87	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3230	81	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4020	101	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3800	93	18-147	
Benzene	ug/L	ND	4000	4190	102	37-151	
Bromodichloromethane	ug/L	ND	4000	3550	88	35-155	
Bromoform	ug/L	ND	4000	3610	90	45-133	
Bromomethane	ug/L	ND	4000	2360	58	10-160	
Carbon tetrachloride	ug/L	ND	4000	4230	106	70-140	
Chloroethane	ug/L	ND	4000	3800	91	14-160	
Chloroform	ug/L	ND	4000	3840	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	19-160	
Ethylbenzene	ug/L	ND	4000	3930	96	37-154	
Methylene chloride	ug/L	ND	4000	3530	86	15-156	
Tetrachloroethene	ug/L	ND	4000	4030	100	64-148	
Toluene	ug/L	ND	4000	3990	99	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3870	97	54-156	
Trichloroethene	ug/L	ND	4000	4110	103	71-157	
Vinyl chloride	ug/L	ND	4000	3360	84	10-160	
Xylene (Total)	ug/L	ND	12000	11100	93	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				105	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MSV/56969
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155141002

METHOD BLANK: 1271638 Matrix: Water
Associated Lab Samples: 60155141002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,2-Dichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/14/13 12:46	
Benzene	ug/L	ND	1.0	10/14/13 12:46	
Bromodichloromethane	ug/L	ND	1.0	10/14/13 12:46	
Bromoform	ug/L	ND	1.0	10/14/13 12:46	
Bromomethane	ug/L	ND	5.0	10/14/13 12:46	
Carbon tetrachloride	ug/L	ND	1.0	10/14/13 12:46	
Chloroethane	ug/L	ND	1.0	10/14/13 12:46	
Chloroform	ug/L	ND	1.0	10/14/13 12:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/14/13 12:46	
Ethylbenzene	ug/L	ND	1.0	10/14/13 12:46	
Methylene chloride	ug/L	ND	1.0	10/14/13 12:46	
Tetrachloroethene	ug/L	ND	1.0	10/14/13 12:46	
Toluene	ug/L	ND	1.0	10/14/13 12:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/14/13 12:46	
Trichloroethene	ug/L	ND	1.0	10/14/13 12:46	
Vinyl chloride	ug/L	ND	1.0	10/14/13 12:46	
Xylene (Total)	ug/L	ND	3.0	10/14/13 12:46	
1,2-Dichloroethane-d4 (S)	%	105	80-120	10/14/13 12:46	
4-Bromofluorobenzene (S)	%	98	80-120	10/14/13 12:46	
Toluene-d8 (S)	%	106	80-120	10/14/13 12:46	

LABORATORY CONTROL SAMPLE: 1271639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	59-138	
1,1,2-Trichloroethane	ug/L	20	17.1	85	69-127	
1,2-Dichloroethane	ug/L	20	22.4	112	71-129	
1,4-Dichlorobenzene	ug/L	20	19.7	99	68-124	
Benzene	ug/L	20	22.3	112	73-129	
Bromodichloromethane	ug/L	20	19.4	97	63-129	
Bromoform	ug/L	20	19.0	95	52-123	
Bromomethane	ug/L	20	11.6	58	10-160	
Carbon tetrachloride	ug/L	20	20.9	104	70-140	
Chloroethane	ug/L	20	16.9	85	42-160	
Chloroform	ug/L	20	19.8	99	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

LABORATORY CONTROL SAMPLE: 1271639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.8	99	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	22.0	110	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.9	95	67-149	
Trichloroethene	ug/L	20	21.7	108	71-130	
Vinyl chloride	ug/L	20	15.9	80	41-160	
Xylene (Total)	ug/L	60	58.7	98	67-130	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			109	80-120	

MATRIX SPIKE SAMPLE: 1271640

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	100	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3100	77	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4230	106	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3670	90	18-147	
Benzene	ug/L	ND	4000	4290	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3650	91	35-155	
Bromoform	ug/L	ND	4000	3440	86	45-133	
Bromomethane	ug/L	ND	4000	2100	52	10-160	
Carbon tetrachloride	ug/L	ND	4000	4250	106	70-140	
Chloroethane	ug/L	ND	4000	3330	82	14-160	
Chloroform	ug/L	ND	4000	3840	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3710	92	19-160	
Ethylbenzene	ug/L	ND	4000	3750	94	37-154	
Methylene chloride	ug/L	ND	4000	3610	89	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	4190	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3820	95	54-156	
Trichloroethene	ug/L	ND	4000	4120	103	71-157	
Vinyl chloride	ug/L	ND	4000	3310	83	10-160	
Xylene (Total)	ug/L	ND	12000	11100	93	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				105	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: OEXT/40951
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155141001

METHOD BLANK: 1270713
Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/14/13 15:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/14/13 15:27	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/14/13 15:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/14/13 15:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/14/13 15:27	
Hexachloroethane	ug/L	ND	5.0	10/14/13 15:27	
Naphthalene	ug/L	ND	5.0	10/14/13 15:27	
Nitrobenzene	ug/L	ND	5.0	10/14/13 15:27	
Pentachlorophenol	ug/L	ND	5.0	10/14/13 15:27	
Phenol	ug/L	ND	5.0	10/14/13 15:27	
2,4,6-Tribromophenol (S)	%	69	39-120	10/14/13 15:27	
2-Fluorobiphenyl (S)	%	66	39-120	10/14/13 15:27	
2-Fluorophenol (S)	%	45	17-120	10/14/13 15:27	
Nitrobenzene-d5 (S)	%	62	33-120	10/14/13 15:27	
Phenol-d6 (S)	%	29	11-120	10/14/13 15:27	
Terphenyl-d14 (S)	%	74	45-120	10/14/13 15:27	

LABORATORY CONTROL SAMPLE: 1270714

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.8	68	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.6	69	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.8	76	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.4	71	44-116	
Hexachlorocyclopentadiene	ug/L	100	58.4	58	24-120	
Hexachloroethane	ug/L	50	28.9	58	43-113	
Naphthalene	ug/L	50	35.0	70	48-120	
Nitrobenzene	ug/L	50	32.6	65	48-120	
Pentachlorophenol	ug/L	50	32.4	65	47-120	
Phenol	ug/L	50	15.9	32	16-112	
2,4,6-Tribromophenol (S)	%			88	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			42	17-120	
Nitrobenzene-d5 (S)	%			64	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			80	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

MATRIX SPIKE SAMPLE: 1270715

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	2860	57	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3480	70	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3500J	70	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3040	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5450	55	11-120	
Hexachloroethane	ug/L	ND	5000	2560	51	40-113	
Naphthalene	ug/L	ND	5000	3180	64	45-120	
Nitrobenzene	ug/L	ND	5000	2890	58	38-120	
Pentachlorophenol	ug/L	ND	5000	4070	81	43-135	
Phenol	ug/L	9390	5000	10300	17	13-112	
2,4,6-Tribromophenol (S)	%				78	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				86	33-120	
Phenol-d6 (S)	%				28	11-120	
Terphenyl-d14 (S)	%				70	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WET/43947 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155141001

METHOD BLANK: 1269621 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/11/13 07:39	

LABORATORY CONTROL SAMPLE: 1269622

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: 1269623

Parameter	Units	60155070001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	4250	52.6	4400	280	78-114	M1

SAMPLE DUPLICATE: 1269624

Parameter	Units	60155071001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1410	1140	21	18	D6

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155141001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WET/44044
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155141001

METHOD BLANK: 1272782
Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/16/13 11:17	

SAMPLE DUPLICATE: 1272783

Parameter	Units	60155141001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4220	4660	10	25	

SAMPLE DUPLICATE: 1272784

Parameter	Units	60155124002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	5.0	33	25	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WET/43972
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155141001

SAMPLE DUPLICATE: 1270735

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WET/43946 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155141001

METHOD BLANK: 1269618 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/16/13 09:13	

LABORATORY CONTROL SAMPLE: 1269619

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	205	104	85-115	

SAMPLE DUPLICATE: 1269620

Parameter	Units	60155141001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30500	30900	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WETA/26651 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155141001

METHOD BLANK: 1271346 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/14/13 11:58	

LABORATORY CONTROL SAMPLE: 1271347

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

MATRIX SPIKE SAMPLE: 1271348

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	761	400	1100	84	90-110	M1

SAMPLE DUPLICATE: 1271349

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	755	768	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: WETA/26658 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155141001

METHOD BLANK: 1271379 Matrix: Water
Associated Lab Samples: 60155141001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/15/13 14:43	

LABORATORY CONTROL SAMPLE: 1271380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.5	109	90-110	

MATRIX SPIKE SAMPLE: 1271381

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70100	50000	121000	101	90-110	

MATRIX SPIKE SAMPLE: 1271382

Parameter	Units	60155141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80000	50000	129000	98	90-110	

MATRIX SPIKE SAMPLE: 1271383

Parameter	Units	60155222001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	98000	50000	142000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155141001	**316-099**	EPA 200.7	MPRP/24692	EPA 200.7	ICP/19196
60155141001	**316-099**	EPA 200.7	MPRP/24677	EPA 200.7	ICP/19175
60155141001	**316-099**	EPA 245.1	MERP/7804	EPA 245.1	MERC/7761
60155141001	**316-099**	EPA 245.1	MERP/7811	EPA 245.1	MERC/7768
60155141001	**316-099**	EPA 625	OEXT/40951	EPA 625	MSSV/12990
60155141001	**316-099**	EPA 624 Low	MSV/56931		
60155141002	**TRIP BLANK**	EPA 624 Low	MSV/56969		
60155141001	**316-099**	EPA 1664A	WET/43947		
60155141001	**316-099**	EPA 1664A	WET/44024		
60155141001	**316-099**	SM 2540D	WET/44044		
60155141001	**316-099**	SM 4500-H+B	WET/43972		
60155141001	**316-099**	SM 5210B	WET/43946	SM 5210B	WET/44050
60155141001	**316-099**	EPA 350.1	WETA/26651		
60155141001	**316-099**	EPA 410.4	WETA/26658		

Pace Analytical
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Sample Condition Upon Receipt

WO# : 60155141

60155141

Client Name: BALR

Optional
Proj Due Date:
Proj Name:

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

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 ☒ Ziplo

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 0.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: S 10/10

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	Add HNO3 - 316-099 BP3N 5.5/40 Add H2SO4 - 316-099 BP3S 5.5/25
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 J / Lot # of added preservative 21510 21520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Sep 30		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: 10/10/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No. PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax:	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency:

State / Location: Missouri

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

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

Requested Analysis Filtered (Y/N)

60155741

ITEM#	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-099 2(BP2U) BP3U, BP3N	OT	G	10/9/13	1020	BP3S	5.5 2(AG4U)		16	11	1	1	3	2(AG1H)					X	X	X	X	X	X	X	X	X	X	X	2(DG9U)	LOG samples as OQS 01
2	TRIP BLANK								2	2																X					2(DG9U) TB 02
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Croay / Julie Croak	10/9/13	1415	[illegible] #TAC	10/9/13	1415				
SITE ADDRESS: BRIDGETON LF				Shardeh MCy/PASI	10/10	0135	0.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 10-09-13

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

October 18, 2013

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

RE: Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 11, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155222001	**316-100**	Water	10/10/13 09:00	10/11/13 01:25
60155222002	**TRIP BLANK**	Water	10/10/13 09:00	10/11/13 01:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155222001	**316-100**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	JML	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155222002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Sample: 316-100 **Lab ID: 60155222001** Collected: 10/10/13 09:00 Received: 10/11/13 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	**12300**	ug/L	150	2	10/16/13 15:45	10/16/13 22:01	7429-90-5	M1
Antimony	ND	ug/L	200	20	10/16/13 15:45	10/16/13 22:08	7440-36-0	D3,R1
Arsenic	**904**	ug/L	20.0	2	10/16/13 15:45	10/16/13 22:01	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/16/13 15:45	10/16/13 22:01	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:01	7440-43-9	
Chromium	**312**	ug/L	25.0	5	10/16/13 15:45	10/16/13 22:05	7440-47-3	
Cobalt	**58.6**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:01	7440-48-4	
Copper	**38.4**	ug/L	20.0	2	10/16/13 15:45	10/16/13 22:01	7440-50-8	
Iron	**1130000**	ug/L	1000	20	10/16/13 15:45	10/17/13 12:22	7439-89-6	M1
Lead	**187**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:01	7439-92-1	
Nickel	**119**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:01	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 15:45	10/16/13 22:05	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 15:45	10/16/13 22:01	7440-22-4	M1
Thallium	ND	ug/L	100	5	10/16/13 15:45	10/16/13 22:05	7440-28-0	D3
Zinc	**13800**	ug/L	1000	20	10/16/13 15:45	10/16/13 22:08	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3730**	ug/L	150	2	10/14/13 20:30	10/17/13 12:44	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/14/13 20:30	10/17/13 12:35	7440-36-0	D3,R1
Arsenic, Dissolved	**690**	ug/L	20.0	2	10/14/13 20:30	10/17/13 12:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/14/13 20:30	10/17/13 12:44	7440-41-7	D3,R1
Cadmium, Dissolved	ND	ug/L	10.0	2	10/14/13 20:30	10/17/13 12:44	7440-43-9	
Chromium, Dissolved	**257**	ug/L	25.0	5	10/14/13 20:30	10/17/13 12:48	7440-47-3	
Cobalt, Dissolved	**37.4**	ug/L	10.0	2	10/14/13 20:30	10/17/13 12:44	7440-48-4	R1
Copper, Dissolved	ND	ug/L	20.0	2	10/14/13 20:30	10/17/13 12:44	7440-50-8	
Iron, Dissolved	**686000**	ug/L	1000	20	10/14/13 20:30	10/17/13 12:35	7439-89-6	M1
Lead, Dissolved	**66.6**	ug/L	10.0	2	10/14/13 20:30	10/17/13 12:44	7439-92-1	R1
Nickel, Dissolved	**88.4**	ug/L	10.0	2	10/14/13 20:30	10/17/13 12:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/14/13 20:30	10/17/13 12:48	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/14/13 20:30	10/17/13 12:44	7440-22-4	M1
Thallium, Dissolved	ND	ug/L	100	5	10/14/13 20:30	10/17/13 12:48	7440-28-0	D3
Zinc, Dissolved	**12000**	ug/L	1000	20	10/14/13 20:30	10/17/13 12:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**4.2**	ug/L	0.20	1	10/14/13 11:00	10/14/13 14:17	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	10/15/13 09:00	10/15/13 12:12	7439-97-6	M1,R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/15/13 00:00	10/16/13 10:47	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Sample: 316-100 **Lab ID: 60155222001** Collected: 10/10/13 09:00 Received: 10/11/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	87-86-5	
Phenol	**12200**	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/15/13 00:00	10/16/13 10:47	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	122	%	33-120	2	10/15/13 00:00	10/16/13 10:47	4165-60-0	S0
2-Fluorobiphenyl (S)	87	%	39-120	2	10/15/13 00:00	10/16/13 10:47	321-60-8	
Terphenyl-d14 (S)	93	%	45-120	2	10/15/13 00:00	10/16/13 10:47	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	10/15/13 00:00	10/16/13 10:47	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	10/15/13 00:00	10/16/13 10:47	367-12-4	
2,4,6-Tribromophenol (S)	101	%	39-120	2	10/15/13 00:00	10/16/13 10:47	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/12/13 00:05	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/12/13 00:05	75-27-4	
Bromoform	ND	ug/L	200	200		10/12/13 00:05	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/12/13 00:05	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/12/13 00:05	56-23-5	
Chloroethane	ND	ug/L	200	200		10/12/13 00:05	75-00-3	
Chloroform	ND	ug/L	200	200		10/12/13 00:05	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/12/13 00:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/12/13 00:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/12/13 00:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/12/13 00:05	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/12/13 00:05	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/12/13 00:05	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/12/13 00:05	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/12/13 00:05	127-18-4	
Toluene	ND	ug/L	200	200		10/12/13 00:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/12/13 00:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/12/13 00:05	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/12/13 00:05	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/12/13 00:05	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/12/13 00:05	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		10/12/13 00:05	460-00-4	D3
Toluene-d8 (S)	103	%	80-120	200		10/12/13 00:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		10/12/13 00:05	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/12/13 00:05		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**318**	mg/L	5.0	1		10/14/13 07:36		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/15/13 14:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Sample: 316-100 **Lab ID: 60155222001** Collected: 10/10/13 09:00 Received: 10/11/13 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2860**	mg/L	5.0	1		10/16/13 11:35		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/12/13 09:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**32200**	mg/L	2.0	1	10/11/13 12:57	10/16/13 12:04		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**755**	mg/L	20.0	200		10/14/13 12:03	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**98000**	mg/L	10000	1000		10/15/13 14:48		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Sample: TRIP BLANK **Lab ID: 60155222002** Collected: 10/10/13 09:00 Received: 10/11/13 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/12/13 00:26	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/12/13 00:26	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/12/13 00:26	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/12/13 00:26	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/12/13 00:26	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/12/13 00:26	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/12/13 00:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/12/13 00:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/12/13 00:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/12/13 00:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/12/13 00:26	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/12/13 00:26	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/12/13 00:26	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/12/13 00:26	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/12/13 00:26	127-18-4	
Toluene	ND	ug/L	1.0	1		10/12/13 00:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/12/13 00:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/12/13 00:26	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/12/13 00:26	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/12/13 00:26	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/12/13 00:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		10/12/13 00:26	460-00-4	
Toluene-d8 (S)	105	%	80-120	1		10/12/13 00:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		10/12/13 00:26	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/12/13 00:26		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: MERP/7816
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155222001

METHOD BLANK: 1271567 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/14/13 14:02	

LABORATORY CONTROL SAMPLE: 1271568

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271569 1271570

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	4.2	5	5	12.7	11.2	170	140	70-130	12	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: MERP/7823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155222001

METHOD BLANK: 1271999 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/15/13 12:08	

LABORATORY CONTROL SAMPLE: 1272000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272001 1272002

Parameter	Units	60155222001 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	0.30	0.24	6	5	70-130	23	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: MPRP/24721
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155222001

METHOD BLANK: 1271699 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/16/13 21:11	
Antimony	ug/L	ND	10.0	10/16/13 21:11	
Arsenic	ug/L	ND	10.0	10/16/13 21:11	
Beryllium	ug/L	ND	1.0	10/16/13 21:11	
Cadmium	ug/L	ND	5.0	10/16/13 21:11	
Chromium	ug/L	ND	5.0	10/16/13 21:11	
Cobalt	ug/L	ND	5.0	10/16/13 21:11	
Copper	ug/L	ND	10.0	10/16/13 21:11	
Iron	ug/L	ND	50.0	10/16/13 21:11	
Lead	ug/L	ND	5.0	10/16/13 21:11	
Nickel	ug/L	ND	5.0	10/16/13 21:11	
Selenium	ug/L	ND	15.0	10/16/13 21:11	
Silver	ug/L	ND	7.0	10/16/13 21:11	
Thallium	ug/L	ND	20.0	10/16/13 21:11	
Zinc	ug/L	ND	50.0	10/16/13 21:11	

LABORATORY CONTROL SAMPLE: 1271700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9650	96	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	957	96	85-115	
Beryllium	ug/L	1000	951	95	85-115	
Cadmium	ug/L	1000	965	97	85-115	
Chromium	ug/L	1000	944	94	85-115	
Cobalt	ug/L	1000	976	98	85-115	
Copper	ug/L	1000	965	96	85-115	
Iron	ug/L	10000	9000	90	85-115	
Lead	ug/L	1000	951	95	85-115	
Nickel	ug/L	1000	984	98	85-115	
Selenium	ug/L	1000	978	98	85-115	
Silver	ug/L	500	470	94	85-115	
Thallium	ug/L	1000	946	95	85-115	
Zinc	ug/L	1000	936	94	85-115	

MATRIX SPIKE SAMPLE: 1271701

Parameter	Units	60155143001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	58.2J	10000	10000	99	70-130	
Antimony	ug/L	ND	1000	1050	105	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

MATRIX SPIKE SAMPLE: 1271701

Parameter	Units	60155143001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	999	100	70-130	
Beryllium	ug/L	ND	1000	942	94	70-130	
Cadmium	ug/L	ND	1000	1000	100	70-130	
Chromium	ug/L	ND	1000	929	93	70-130	
Cobalt	ug/L	0.55J	1000	972	97	70-130	
Copper	ug/L	ND	1000	1010	101	70-130	
Iron	ug/L	188	10000	9190	90	70-130	
Lead	ug/L	2.5J	1000	964	96	70-130	
Nickel	ug/L	ND	1000	972	97	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	486	97	70-130	
Thallium	ug/L	ND	1000	958	96	70-130	
Zinc	ug/L	ND	1000	905	90	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271702 1271703

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	12300	10000	10000	25700	25900	133	136	70-130	1	8	M1
Antimony	ug/L	ND	1000	1000	910	799	87	76	70-130	13	7	R1
Arsenic	ug/L	904	1000	1000	2040	1980	114	107	70-130	3	10	
Beryllium	ug/L	ND	1000	1000	905	870	90	87	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1040	995	104	99	70-130	4	10	
Chromium	ug/L	312	1000	1000	1190	1140	88	83	70-130	4	10	
Cobalt	ug/L	58.6	1000	1000	970	932	91	87	70-130	4	6	
Copper	ug/L	38.4	1000	1000	1110	1070	107	103	70-130	4	11	
Iron	ug/L	1130000	10000	10000	1150000	1140000	234	138	70-130	1	10	M1
Lead	ug/L	187	1000	1000	989	954	80	77	70-130	4	10	
Nickel	ug/L	119	1000	1000	1010	970	89	85	70-130	4	10	
Selenium	ug/L	ND	1000	1000	1050	1010	105	100	70-130	4	10	
Silver	ug/L	ND	500	500	16.9	17.2	3	3	70-130	2	10	M1
Thallium	ug/L	ND	1000	1000	754	724	75	72	70-130	4	6	
Zinc	ug/L	13800	1000	1000	15100	13800	129	-6	70-130	9	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: MPRP/24736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155222001

METHOD BLANK: 1271854 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/17/13 12:28	
Antimony, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Arsenic, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Beryllium, Dissolved	ug/L	ND	1.0	10/17/13 12:28	
Cadmium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Chromium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Cobalt, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Copper, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Iron, Dissolved	ug/L	ND	50.0	10/17/13 12:28	
Lead, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Nickel, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Selenium, Dissolved	ug/L	ND	15.0	10/17/13 12:28	
Silver, Dissolved	ug/L	ND	7.0	10/17/13 12:28	
Thallium, Dissolved	ug/L	ND	20.0	10/17/13 12:28	
Zinc, Dissolved	ug/L	ND	50.0	10/17/13 12:28	

LABORATORY CONTROL SAMPLE: 1271855

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	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	969	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	985	98	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	995	100	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	999	100	85-115	
Silver, Dissolved	ug/L	500	480	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 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	3730	10000	10000	13700	12700	100	90	70-130	8	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	916	845	84	77	70-130	8	7	R1
Arsenic, Dissolved	ug/L	690	1000	1000	1730	1620	104	93	70-130	6	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	901	808	90	81	70-130	11	7	R1
Cadmium, Dissolved	ug/L	ND	1000	1000	975	881	98	88	70-130	10	10	
Chromium, Dissolved	ug/L	257	1000	1000	1150	1070	89	82	70-130	7	10	
Cobalt, Dissolved	ug/L	37.4	1000	1000	905	821	87	78	70-130	10	6	R1
Copper, Dissolved	ug/L	ND	1000	1000	975	880	97	88	70-130	10	11	
Iron, Dissolved	ug/L	686000	10000	10000	680000	718000	-58	322	70-130	5	10	M1
Lead, Dissolved	ug/L	66.6	1000	1000	867	779	80	71	70-130	11	10	R1
Nickel, Dissolved	ug/L	88.4	1000	1000	952	866	86	78	70-130	9	10	
Selenium, Dissolved	ug/L	ND	1000	1000	973	923	97	92	70-130	5	10	
Silver, Dissolved	ug/L	ND	500	500	17.6	16.4	4	3	70-130	7	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	735	696	74	70	70-130	5	6	
Zinc, Dissolved	ug/L	12000	1000	1000	12900	13200	98	123	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: MSV/56931 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155222001, 60155222002

METHOD BLANK: 1269916 Matrix: Water
Associated Lab Samples: 60155222001, 60155222002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,2-Dichloroethane	ug/L	ND	1.0	10/11/13 17:40	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/11/13 17:40	
Benzene	ug/L	ND	1.0	10/11/13 17:40	
Bromodichloromethane	ug/L	ND	1.0	10/11/13 17:40	
Bromoform	ug/L	ND	1.0	10/11/13 17:40	
Bromomethane	ug/L	ND	5.0	10/11/13 17:40	
Carbon tetrachloride	ug/L	ND	1.0	10/11/13 17:40	
Chloroethane	ug/L	ND	1.0	10/11/13 17:40	
Chloroform	ug/L	ND	1.0	10/11/13 17:40	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Ethylbenzene	ug/L	ND	1.0	10/11/13 17:40	
Methylene chloride	ug/L	ND	1.0	10/11/13 17:40	
Tetrachloroethene	ug/L	ND	1.0	10/11/13 17:40	
Toluene	ug/L	ND	1.0	10/11/13 17:40	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Trichloroethene	ug/L	ND	1.0	10/11/13 17:40	
Vinyl chloride	ug/L	ND	1.0	10/11/13 17:40	
Xylene (Total)	ug/L	ND	3.0	10/11/13 17:40	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/11/13 17:40	
4-Bromofluorobenzene (S)	%	100	80-120	10/11/13 17:40	
Toluene-d8 (S)	%	103	80-120	10/11/13 17:40	

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.8	89	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	59-138	
1,1,2-Trichloroethane	ug/L	20	17.1	85	69-127	
1,2-Dichloroethane	ug/L	20	20.1	100	71-129	
1,4-Dichlorobenzene	ug/L	20	20.1	100	68-124	
Benzene	ug/L	20	20.0	100	73-129	
Bromodichloromethane	ug/L	20	17.2	86	63-129	
Bromoform	ug/L	20	19.9	100	52-123	
Bromomethane	ug/L	20	18.5	93	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	16.7	84	42-160	
Chloroform	ug/L	20	18.0	90	60-120	
cis-1,2-Dichloroethene	ug/L	20	17.2	86	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

LABORATORY CONTROL SAMPLE: 1269917

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.5	98	66-133	
Methylene chloride	ug/L	20	17.1	86	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.1	91	67-149	
Trichloroethene	ug/L	20	19.2	96	71-130	
Vinyl chloride	ug/L	20	15.2	76	41-160	
Xylene (Total)	ug/L	60	59.6	99	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1269918

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3590	87	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3230	81	52-150	
1,2-Dichloroethane	ug/L	ND	4000	4020	101	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3800	93	18-147	
Benzene	ug/L	ND	4000	4190	102	37-151	
Bromodichloromethane	ug/L	ND	4000	3550	88	35-155	
Bromoform	ug/L	ND	4000	3610	90	45-133	
Bromomethane	ug/L	ND	4000	2360	58	10-160	
Carbon tetrachloride	ug/L	ND	4000	4230	106	70-140	
Chloroethane	ug/L	ND	4000	3800	91	14-160	
Chloroform	ug/L	ND	4000	3840	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3680	92	19-160	
Ethylbenzene	ug/L	ND	4000	3930	96	37-154	
Methylene chloride	ug/L	ND	4000	3530	86	15-156	
Tetrachloroethene	ug/L	ND	4000	4030	100	64-148	
Toluene	ug/L	ND	4000	3990	99	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3870	97	54-156	
Trichloroethene	ug/L	ND	4000	4110	103	71-157	
Vinyl chloride	ug/L	ND	4000	3360	84	10-160	
Xylene (Total)	ug/L	ND	12000	11100	93	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				105	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: OEXT/40973
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155222001

METHOD BLANK: 1271866
Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/16/13 08:43	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/16/13 08:43	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/16/13 08:43	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/16/13 08:43	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/16/13 08:43	
Hexachloroethane	ug/L	ND	5.0	10/16/13 08:43	
Naphthalene	ug/L	ND	5.0	10/16/13 08:43	
Nitrobenzene	ug/L	ND	5.0	10/16/13 08:43	
Pentachlorophenol	ug/L	ND	5.0	10/16/13 08:43	
Phenol	ug/L	ND	5.0	10/16/13 08:43	
2,4,6-Tribromophenol (S)	%	94	39-120	10/16/13 08:43	
2-Fluorobiphenyl (S)	%	88	39-120	10/16/13 08:43	
2-Fluorophenol (S)	%	44	17-120	10/16/13 08:43	
Nitrobenzene-d5 (S)	%	82	33-120	10/16/13 08:43	
Phenol-d6 (S)	%	27	11-120	10/16/13 08:43	
Terphenyl-d14 (S)	%	94	45-120	10/16/13 08:43	

LABORATORY CONTROL SAMPLE: 1271867

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	45.3	91	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	50.7	101	40-133	
Hexachloro-1,3-butadiene	ug/L	50	47.3	95	44-116	
Hexachlorocyclopentadiene	ug/L	100	87.4	87	24-120	
Hexachloroethane	ug/L	50	40.7	81	43-113	
Naphthalene	ug/L	50	44.6	89	48-120	
Nitrobenzene	ug/L	50	42.4	85	48-120	
Pentachlorophenol	ug/L	50	46.2	92	47-120	
Phenol	ug/L	50	15.0	30	16-112	
2,4,6-Tribromophenol (S)	%			96	39-120	
2-Fluorobiphenyl (S)	%			89	39-120	
2-Fluorophenol (S)	%			43	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			27	11-120	
Terphenyl-d14 (S)	%			96	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

MATRIX SPIKE SAMPLE: 1271868

Parameter	Units	60155222001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3920	78	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4360	87	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4750J	95	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3980	80	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7660	77	11-120	
Hexachloroethane	ug/L	ND	5000	3470	69	40-113	
Naphthalene	ug/L	ND	5000	4380	79	45-120	
Nitrobenzene	ug/L	ND	5000	3800	76	38-120	
Pentachlorophenol	ug/L	ND	5000	4870	97	43-135	
Phenol	ug/L	12200	5000	10500	-34	13-112	M1
2,4,6-Tribromophenol (S)	%				96	39-120	
2-Fluorobiphenyl (S)	%				82	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				111	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				87	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WET/43981 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155222001

METHOD BLANK: 1271150 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/14/13 07:34	

LABORATORY CONTROL SAMPLE: 1271151

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: 1271154

Parameter	Units	60155008003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	4130	46.5	4700	1233	78-114	M1

SAMPLE DUPLICATE: 1271155

Parameter	Units	60155008004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1510	1480	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155222001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WET/44046 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155222001

METHOD BLANK: 1272788 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/16/13 11:33	

SAMPLE DUPLICATE: 1272789

Parameter	Units	5088294001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	31.7	25.0	24	25	

SAMPLE DUPLICATE: 1272790

Parameter	Units	60155238002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WET/43972
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155222001

SAMPLE DUPLICATE: 1270735

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WET/43957 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155222001

METHOD BLANK: 1269813 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/16/13 10:45	

LABORATORY CONTROL SAMPLE: 1269814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	181	92	85-115	

SAMPLE DUPLICATE: 1269815

Parameter	Units	60155144005 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 316-100
Pace Project No.: 60155222

QC Batch: WETA/26651 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155222001

METHOD BLANK: 1271346 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/14/13 11:58	

LABORATORY CONTROL SAMPLE: 1271347

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

MATRIX SPIKE SAMPLE: 1271348

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	761	400	1100	84	90-110	M1

SAMPLE DUPLICATE: 1271349

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	755	768	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

QC Batch: WETA/26658 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155222001

METHOD BLANK: 1271379 Matrix: Water
Associated Lab Samples: 60155222001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/15/13 14:43	

LABORATORY CONTROL SAMPLE: 1271380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.5	109	90-110	

MATRIX SPIKE SAMPLE: 1271381

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70100	50000	121000	101	90-110	

MATRIX SPIKE SAMPLE: 1271382

Parameter	Units	60155141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80000	50000	129000	98	90-110	

MATRIX SPIKE SAMPLE: 1271383

Parameter	Units	60155222001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	98000	50000	142000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
R1	RPD value was outside control limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-100
Pace Project No.: 60155222

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155222001	**316-100**	EPA 200.7	MPRP/24721	EPA 200.7	ICP/19214
60155222001	**316-100**	EPA 200.7	MPRP/24736	EPA 200.7	ICP/19206
60155222001	**316-100**	EPA 245.1	MERP/7816	EPA 245.1	MERC/7773
60155222001	**316-100**	EPA 245.1	MERP/7823	EPA 245.1	MERC/7779
60155222001	**316-100**	EPA 625	OEXT/40973	EPA 625	MSSV/13003
60155222001	**316-100**	EPA 624 Low	MSV/56931		
60155222002	**TRIP BLANK**	EPA 624 Low	MSV/56931		
60155222001	**316-100**	EPA 1664A	WET/43981		
60155222001	**316-100**	EPA 1664A	WET/44024		
60155222001	**316-100**	SM 2540D	WET/44046		
60155222001	**316-100**	SM 4500-H+B	WET/43972		
60155222001	**316-100**	SM 5210B	WET/43957	SM 5210B	WET/44055
60155222001	**316-100**	EPA 350.1	WETA/26651		
60155222001	**316-100**	EPA 410.4	WETA/26658		

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Sample Condition Upon Receipt

WO# : 60155222

60155222

Client Name: Bair Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ X-Roads

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

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

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

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/11/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, ph
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Both BP3N & BP3S initial ph 4-5, added 2-5 mL to both, final ph for both 3-5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed ✓ Lot # of added preservative 12510-1-3
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 05313-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	2 of 5 DA94 OK
		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: 10/11/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: of

Section A
Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B
Required Project Information:

Report To:	ED GALBRAITH
Copy To:	SCOTT C. FEDAK
Purchase Order No.:	
Project Name:	BRIDGETON LANDFILL
Project Number:	

Section C
Invoice Information:

Attention:	
Company Name:	REPUBLIC SERVICES
Address:	
Pace Quote Reference:	130426_7588
Pace Project Manager:	Angie Brown 913-563-1402
Pace Profile #:	6787 line 2

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.: 60155222

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	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	COD 410	pH SM 4500H+B	LF Dis. Metals 200.7 /245 N	Total Metals 200.7/245*	Ammonia EPA 350	Oil/Grease EPA 1664	625 SVOCs	624 VOCs	TSS SM2540D	TPH-HEM (Lcw)	BOD	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	316-100 3xG1U, 2AG1H	OT	G	10/10/13	0900	BP1U, BP3U, 5DG9U, BP3N 3.5, BP3S 2.5													X	X	X	X	X	X	X	X	X	X	X		*Metals list: 001
2																															2(DG9U) Al,Sb,As,Be,Cd,Cr
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie CROAK / Julie Croak	10/10/13	1435	Jacquetta Hazel	10/10/13	1435				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	10/11	0125	1.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10-10-13

Page 29 of 29

*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

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

October 18, 2013

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

RE: Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 12, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155346001	**316-101**	Water	10/11/13 09:45	10/12/13 00:30
60155346002	**TRIP BLANK**	Water	10/11/13 08:00	10/12/13 00:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155346001	**316-101**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	38
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155346002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Sample: 316-101 **Lab ID: 60155346001** Collected: 10/11/13 09:45 Received: 10/12/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7070**	ug/L	150	2	10/16/13 15:45	10/16/13 22:28	7429-90-5	
Antimony	ND	ug/L	200	20	10/16/13 15:45	10/16/13 22:45	7440-36-0	D3
Arsenic	**859**	ug/L	20.0	2	10/16/13 15:45	10/16/13 22:28	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/16/13 15:45	10/16/13 22:28	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:28	7440-43-9	
Chromium	**294**	ug/L	25.0	5	10/16/13 15:45	10/16/13 22:38	7440-47-3	
Cobalt	**52.0**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:28	7440-48-4	
Copper	ND	ug/L	20.0	2	10/16/13 15:45	10/16/13 22:28	7440-50-8	
Iron	**1020000**	ug/L	1000	20	10/16/13 15:45	10/17/13 12:19	7439-89-6	
Lead	**138**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:28	7439-92-1	
Nickel	**107**	ug/L	10.0	2	10/16/13 15:45	10/16/13 22:28	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 15:45	10/16/13 22:38	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 15:45	10/16/13 22:28	7440-22-4	
Thallium	ND	ug/L	100	5	10/16/13 15:45	10/16/13 22:38	7440-28-0	D3
Zinc	**13200**	ug/L	1000	20	10/16/13 15:45	10/16/13 22:45	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3930**	ug/L	150	2	10/14/13 20:30	10/17/13 13:11	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/14/13 20:30	10/17/13 13:24	7440-36-0	D3
Arsenic, Dissolved	**688**	ug/L	20.0	2	10/14/13 20:30	10/17/13 13:11	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/14/13 20:30	10/17/13 13:11	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/14/13 20:30	10/17/13 13:11	7440-43-9	
Chromium, Dissolved	**259**	ug/L	25.0	5	10/14/13 20:30	10/17/13 13:14	7440-47-3	
Cobalt, Dissolved	**38.5**	ug/L	10.0	2	10/14/13 20:30	10/17/13 13:11	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/14/13 20:30	10/17/13 13:11	7440-50-8	
Iron, Dissolved	**655000**	ug/L	1000	20	10/14/13 20:30	10/17/13 13:24	7439-89-6	
Lead, Dissolved	**65.6**	ug/L	10.0	2	10/14/13 20:30	10/17/13 13:11	7439-92-1	
Nickel, Dissolved	**92.1**	ug/L	10.0	2	10/14/13 20:30	10/17/13 13:11	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/14/13 20:30	10/17/13 13:14	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/14/13 20:30	10/17/13 13:11	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/14/13 20:30	10/17/13 13:14	7440-28-0	D3
Zinc, Dissolved	**12500**	ug/L	1000	20	10/14/13 20:30	10/17/13 13:24	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.61**	ug/L	0.20	1	10/14/13 11:00	10/14/13 14:29	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	10/15/13 09:00	10/15/13 12:19	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/16/13 00:00	10/17/13 18:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	77-47-4	M1
Hexachloroethane	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Sample: 316-101 **Lab ID: 60155346001** Collected: 10/11/13 09:45 Received: 10/12/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	87-86-5	
Phenol	**10900**	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 18:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	10/16/13 00:00	10/17/13 18:40	4165-60-0	
2-Fluorobiphenyl (S)	82	%	39-120	2	10/16/13 00:00	10/17/13 18:40	321-60-8	
Terphenyl-d14 (S)	95	%	45-120	2	10/16/13 00:00	10/17/13 18:40	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	10/16/13 00:00	10/17/13 18:40	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	10/16/13 00:00	10/17/13 18:40	367-12-4	
2,4,6-Tribromophenol (S)	95	%	39-120	2	10/16/13 00:00	10/17/13 18:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Acrylonitrile	ND	ug/L	4000	200		10/14/13 14:38	107-13-1	
Benzene	ND	ug/L	200	200		10/14/13 14:38	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/14/13 14:38	75-27-4	
Bromoform	ND	ug/L	200	200		10/14/13 14:38	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/14/13 14:38	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/14/13 14:38	56-23-5	
Chlorobenzene	ND	ug/L	200	200		10/14/13 14:38	108-90-7	
Chloroethane	ND	ug/L	200	200		10/14/13 14:38	75-00-3	
2-Chloroethylvinyl ether	ND	ug/L	2000	200		10/14/13 14:38	110-75-8	
Chloroform	ND	ug/L	200	200		10/14/13 14:38	67-66-3	
Chloromethane	ND	ug/L	200	200		10/14/13 14:38	74-87-3	
Dibromochloromethane	ND	ug/L	200	200		10/14/13 14:38	124-48-1	
1,2-Dichlorobenzene	ND	ug/L	200	200		10/14/13 14:38	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	200	200		10/14/13 14:38	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/14/13 14:38	106-46-7	
1,1-Dichloroethane	ND	ug/L	200	200		10/14/13 14:38	75-34-3	
1,2-Dichloroethane	ND	ug/L	200	200		10/14/13 14:38	107-06-2	
1,1-Dichloroethene	ND	ug/L	200	200		10/14/13 14:38	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/14/13 14:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/14/13 14:38	156-60-5	
1,2-Dichloropropane	ND	ug/L	200	200		10/14/13 14:38	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	200	200		10/14/13 14:38	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	200	200		10/14/13 14:38	10061-02-6	
Ethylbenzene	ND	ug/L	200	200		10/14/13 14:38	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/14/13 14:38	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/14/13 14:38	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/14/13 14:38	127-18-4	
Toluene	ND	ug/L	200	200		10/14/13 14:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/14/13 14:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/14/13 14:38	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/14/13 14:38	79-01-6	
Trichlorofluoromethane	ND	ug/L	200	200		10/14/13 14:38	75-69-4	
Vinyl chloride	ND	ug/L	200	200		10/14/13 14:38	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/14/13 14:38	1330-20-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Sample: 316-101 **Lab ID: 60155346001** Collected: 10/11/13 09:45 Received: 10/12/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		10/14/13 14:38	460-00-4	D3
Toluene-d8 (S)	108	%	80-120	200		10/14/13 14:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	200		10/14/13 14:38	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/14/13 14:38		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**706**	mg/L	5.0	1		10/14/13 07:38		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/15/13 14:09		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3820**	mg/L	5.0	1		10/17/13 13:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/14/13 12:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29300**	mg/L	2.0	1	10/12/13 12:44	10/17/13 15:10		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**712**	mg/L	20.0	200		10/14/13 12:06	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**78300**	mg/L	10000	1000		10/15/13 14:48		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Sample: TRIP BLANK **Lab ID: 60155346002** Collected: 10/11/13 08:00 Received: 10/12/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/14/13 15:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/14/13 15:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/14/13 15:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/14/13 15:21	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/14/13 15:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/14/13 15:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/14/13 15:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/14/13 15:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/14/13 15:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/14/13 15:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/14/13 15:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/14/13 15:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/14/13 15:21	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/14/13 15:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/14/13 15:21	127-18-4	
Toluene	ND	ug/L	1.0	1		10/14/13 15:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/14/13 15:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/14/13 15:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/14/13 15:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/14/13 15:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/14/13 15:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/14/13 15:21	460-00-4	
Toluene-d8 (S)	108	%	80-120	1		10/14/13 15:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	1		10/14/13 15:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/14/13 15:21		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: MERP/7816
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155346001

METHOD BLANK: 1271567 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/14/13 14:02	

LABORATORY CONTROL SAMPLE: 1271568

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271569 1271570

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	4.2	5	5	12.7	11.2	170	140	70-130	12	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: MERP/7823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155346001

METHOD BLANK: 1271999 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/15/13 12:08	

LABORATORY CONTROL SAMPLE: 1272000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272001 1272002

Parameter	Units	60155222001 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	0.30	0.24	6	5	70-130	23	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: MPRP/24721
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155346001

METHOD BLANK: 1271699 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/16/13 21:11	
Antimony	ug/L	ND	10.0	10/16/13 21:11	
Arsenic	ug/L	ND	10.0	10/16/13 21:11	
Beryllium	ug/L	ND	1.0	10/16/13 21:11	
Cadmium	ug/L	ND	5.0	10/16/13 21:11	
Chromium	ug/L	ND	5.0	10/16/13 21:11	
Cobalt	ug/L	ND	5.0	10/16/13 21:11	
Copper	ug/L	ND	10.0	10/16/13 21:11	
Iron	ug/L	ND	50.0	10/16/13 21:11	
Lead	ug/L	ND	5.0	10/16/13 21:11	
Nickel	ug/L	ND	5.0	10/16/13 21:11	
Selenium	ug/L	ND	15.0	10/16/13 21:11	
Silver	ug/L	ND	7.0	10/16/13 21:11	
Thallium	ug/L	ND	20.0	10/16/13 21:11	
Zinc	ug/L	ND	50.0	10/16/13 21:11	

LABORATORY CONTROL SAMPLE: 1271700

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9650	96	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	957	96	85-115	
Beryllium	ug/L	1000	951	95	85-115	
Cadmium	ug/L	1000	965	97	85-115	
Chromium	ug/L	1000	944	94	85-115	
Cobalt	ug/L	1000	976	98	85-115	
Copper	ug/L	1000	965	96	85-115	
Iron	ug/L	10000	9000	90	85-115	
Lead	ug/L	1000	951	95	85-115	
Nickel	ug/L	1000	984	98	85-115	
Selenium	ug/L	1000	978	98	85-115	
Silver	ug/L	500	470	94	85-115	
Thallium	ug/L	1000	946	95	85-115	
Zinc	ug/L	1000	936	94	85-115	

MATRIX SPIKE SAMPLE: 1271701

Parameter	Units	60155143001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	58.2J	10000	10000	99	70-130	
Antimony	ug/L	ND	1000	1050	105	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

MATRIX SPIKE SAMPLE: 1271701

Parameter	Units	60155143001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	999	100	70-130	
Beryllium	ug/L	ND	1000	942	94	70-130	
Cadmium	ug/L	ND	1000	1000	100	70-130	
Chromium	ug/L	ND	1000	929	93	70-130	
Cobalt	ug/L	0.55J	1000	972	97	70-130	
Copper	ug/L	ND	1000	1010	101	70-130	
Iron	ug/L	188	10000	9190	90	70-130	
Lead	ug/L	2.5J	1000	964	96	70-130	
Nickel	ug/L	ND	1000	972	97	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	486	97	70-130	
Thallium	ug/L	ND	1000	958	96	70-130	
Zinc	ug/L	ND	1000	905	90	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271702 1271703

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	12300	10000	10000	25700	25900	133	136	70-130	1	8	M1
Antimony	ug/L	ND	1000	1000	910	799	87	76	70-130	13	7	R1
Arsenic	ug/L	904	1000	1000	2040	1980	114	107	70-130	3	10	
Beryllium	ug/L	ND	1000	1000	905	870	90	87	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1040	995	104	99	70-130	4	10	
Chromium	ug/L	312	1000	1000	1190	1140	88	83	70-130	4	10	
Cobalt	ug/L	58.6	1000	1000	970	932	91	87	70-130	4	6	
Copper	ug/L	38.4	1000	1000	1110	1070	107	103	70-130	4	11	
Iron	ug/L	1130000	10000	10000	1150000	1140000	234	138	70-130	1	10	M1
Lead	ug/L	187	1000	1000	989	954	80	77	70-130	4	10	
Nickel	ug/L	119	1000	1000	1010	970	89	85	70-130	4	10	
Selenium	ug/L	ND	1000	1000	1050	1010	105	100	70-130	4	10	
Silver	ug/L	ND	500	500	16.9	17.2	3	3	70-130	2	10	M1
Thallium	ug/L	ND	1000	1000	754	724	75	72	70-130	4	6	
Zinc	ug/L	13800	1000	1000	15100	13800	129	-6	70-130	9	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: MPRP/24736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155346001

METHOD BLANK: 1271854 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/17/13 12:28	
Antimony, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Arsenic, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Beryllium, Dissolved	ug/L	ND	1.0	10/17/13 12:28	
Cadmium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Chromium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Cobalt, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Copper, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Iron, Dissolved	ug/L	ND	50.0	10/17/13 12:28	
Lead, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Nickel, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Selenium, Dissolved	ug/L	ND	15.0	10/17/13 12:28	
Silver, Dissolved	ug/L	ND	7.0	10/17/13 12:28	
Thallium, Dissolved	ug/L	ND	20.0	10/17/13 12:28	
Zinc, Dissolved	ug/L	ND	50.0	10/17/13 12:28	

LABORATORY CONTROL SAMPLE: 1271855

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	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	969	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	985	98	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	995	100	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	999	100	85-115	
Silver, Dissolved	ug/L	500	480	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 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	3730	10000	10000	13700	12700	100	90	70-130	8	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	916	845	84	77	70-130	8	7	R1
Arsenic, Dissolved	ug/L	690	1000	1000	1730	1620	104	93	70-130	6	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	901	808	90	81	70-130	11	7	R1
Cadmium, Dissolved	ug/L	ND	1000	1000	975	881	98	88	70-130	10	10	
Chromium, Dissolved	ug/L	257	1000	1000	1150	1070	89	82	70-130	7	10	
Cobalt, Dissolved	ug/L	37.4	1000	1000	905	821	87	78	70-130	10	6	R1
Copper, Dissolved	ug/L	ND	1000	1000	975	880	97	88	70-130	10	11	
Iron, Dissolved	ug/L	686000	10000	10000	680000	718000	-58	322	70-130	5	10	M1
Lead, Dissolved	ug/L	66.6	1000	1000	867	779	80	71	70-130	11	10	R1
Nickel, Dissolved	ug/L	88.4	1000	1000	952	866	86	78	70-130	9	10	
Selenium, Dissolved	ug/L	ND	1000	1000	973	923	97	92	70-130	5	10	
Silver, Dissolved	ug/L	ND	500	500	17.6	16.4	4	3	70-130	7	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	735	696	74	70	70-130	5	6	
Zinc, Dissolved	ug/L	12000	1000	1000	12900	13200	98	123	70-130	2	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: MSV/56969 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155346001, 60155346002

METHOD BLANK: 1271638 Matrix: Water
Associated Lab Samples: 60155346001, 60155346002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1-Dichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,1-Dichloroethene	ug/L	ND	1.0	10/14/13 12:46	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/14/13 12:46	
1,2-Dichloroethane	ug/L	ND	1.0	10/14/13 12:46	
1,2-Dichloropropane	ug/L	ND	1.0	10/14/13 12:46	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/14/13 12:46	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/14/13 12:46	
2-Chloroethylvinyl ether	ug/L	ND	10.0	10/14/13 12:46	
Acrylonitrile	ug/L	ND	20.0	10/14/13 12:46	
Benzene	ug/L	ND	1.0	10/14/13 12:46	
Bromodichloromethane	ug/L	ND	1.0	10/14/13 12:46	
Bromoform	ug/L	ND	1.0	10/14/13 12:46	
Bromomethane	ug/L	ND	5.0	10/14/13 12:46	
Carbon tetrachloride	ug/L	ND	1.0	10/14/13 12:46	
Chlorobenzene	ug/L	ND	1.0	10/14/13 12:46	
Chloroethane	ug/L	ND	1.0	10/14/13 12:46	
Chloroform	ug/L	ND	1.0	10/14/13 12:46	
Chloromethane	ug/L	ND	1.0	10/14/13 12:46	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/14/13 12:46	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/14/13 12:46	
Dibromochloromethane	ug/L	ND	1.0	10/14/13 12:46	
Ethylbenzene	ug/L	ND	1.0	10/14/13 12:46	
Methylene chloride	ug/L	ND	1.0	10/14/13 12:46	
Tetrachloroethene	ug/L	ND	1.0	10/14/13 12:46	
Toluene	ug/L	ND	1.0	10/14/13 12:46	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/14/13 12:46	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/14/13 12:46	
Trichloroethene	ug/L	ND	1.0	10/14/13 12:46	
Trichlorofluoromethane	ug/L	ND	1.0	10/14/13 12:46	
Vinyl chloride	ug/L	ND	1.0	10/14/13 12:46	
Xylene (Total)	ug/L	ND	3.0	10/14/13 12:46	
1,2-Dichloroethane-d4 (S)	%	105	80-120	10/14/13 12:46	
4-Bromofluorobenzene (S)	%	98	80-120	10/14/13 12:46	
Toluene-d8 (S)	%	106	80-120	10/14/13 12:46	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

LABORATORY CONTROL SAMPLE: 1271639

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.7	99	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	19.2	96	59-138	
1,1,2-Trichloroethane	ug/L	20	17.1	85	69-127	
1,1-Dichloroethane	ug/L	20	20.3	102	69-126	
1,1-Dichloroethene	ug/L	20	18.6	93	65-153	
1,2-Dichlorobenzene	ug/L	20	19.2	96	66-126	
1,2-Dichloroethane	ug/L	20	22.4	112	71-129	
1,2-Dichloropropane	ug/L	20	22.0	110	66-140	
1,3-Dichlorobenzene	ug/L	20	19.7	98	63-127	
1,4-Dichlorobenzene	ug/L	20	19.7	99	68-124	
2-Chloroethylvinyl ether	ug/L	20	18.5	93	33-159	
Acrylonitrile	ug/L	200	216	108	71-135	
Benzene	ug/L	20	22.3	112	73-129	
Bromodichloromethane	ug/L	20	19.4	97	63-129	
Bromoform	ug/L	20	19.0	95	52-123	
Bromomethane	ug/L	20	11.6	58	10-160	
Carbon tetrachloride	ug/L	20	20.9	104	70-140	
Chlorobenzene	ug/L	20	19.5	97	68-127	
Chloroethane	ug/L	20	16.9	85	42-160	
Chloroform	ug/L	20	19.8	99	60-120	
Chloromethane	ug/L	20	13.7	68	10-160	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	70-125	
cis-1,3-Dichloropropene	ug/L	20	21.5	107	66-132	
Dibromochloromethane	ug/L	20	19.0	95	63-134	
Ethylbenzene	ug/L	20	19.8	99	66-133	
Methylene chloride	ug/L	20	19.2	96	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	22.0	110	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.9	95	67-149	
trans-1,3-Dichloropropene	ug/L	20	20.5	102	66-138	
Trichloroethene	ug/L	20	21.7	108	71-130	
Trichlorofluoromethane	ug/L	20	17.8	89	58-158	
Vinyl chloride	ug/L	20	15.9	80	41-160	
Xylene (Total)	ug/L	60	58.7	98	67-130	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			109	80-120	

MATRIX SPIKE SAMPLE: 1271640

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3980	100	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3100	77	52-150	
1,1-Dichloroethane	ug/L	ND	4000	3820	95	59-155	
1,1-Dichloroethene	ug/L	ND	4000	3710	92	14-160	
1,2-Dichlorobenzene	ug/L	ND	4000	3600	90	18-145	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

MATRIX SPIKE SAMPLE: 1271640

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	4000	4230	106	49-155	
1,2-Dichloropropane	ug/L	ND	4000	4120	103	12-160	
1,3-Dichlorobenzene	ug/L	ND	4000	3690	92	59-146	
1,4-Dichlorobenzene	ug/L	ND	4000	3670	90	18-147	
2-Chloroethylvinyl ether	ug/L	ND	4000	3500	87	10-160	
Acrylonitrile	ug/L	ND	40000	37000	92	71-135	
Benzene	ug/L	ND	4000	4290	107	37-151	
Bromodichloromethane	ug/L	ND	4000	3650	91	35-155	
Bromoform	ug/L	ND	4000	3440	86	45-133	
Bromomethane	ug/L	ND	4000	2100	52	10-160	
Carbon tetrachloride	ug/L	ND	4000	4250	106	70-140	
Chlorobenzene	ug/L	ND	4000	3700	92	37-153	
Chloroethane	ug/L	ND	4000	3330	82	14-160	
Chloroform	ug/L	ND	4000	3840	96	51-138	
Chloromethane	ug/L	ND	4000	2630	66	10-160	
cis-1,2-Dichloroethene	ug/L	ND	4000	3710	92	19-160	
cis-1,3-Dichloropropene	ug/L	ND	4000	4100	102	10-160	
Dibromochloromethane	ug/L	ND	4000	3580	90	53-149	
Ethylbenzene	ug/L	ND	4000	3750	94	37-154	
Methylene chloride	ug/L	ND	4000	3610	89	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	4190	105	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3820	95	54-156	
trans-1,3-Dichloropropene	ug/L	ND	4000	3770	94	17-160	
Trichloroethene	ug/L	ND	4000	4120	103	71-157	
Trichlorofluoromethane	ug/L	ND	4000	3690	92	17-160	
Vinyl chloride	ug/L	ND	4000	3310	83	10-160	
Xylene (Total)	ug/L	ND	12000	11100	93	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				105	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: OEXT/41016
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155346001

METHOD BLANK: 1273429 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/17/13 08:40	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/17/13 08:40	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachloroethane	ug/L	ND	5.0	10/17/13 08:40	
Naphthalene	ug/L	ND	5.0	10/17/13 08:40	
Nitrobenzene	ug/L	ND	5.0	10/17/13 08:40	
Pentachlorophenol	ug/L	ND	5.0	10/17/13 08:40	
Phenol	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Tribromophenol (S)	%	110	39-120	10/17/13 08:40	
2-Fluorobiphenyl (S)	%	98	39-120	10/17/13 08:40	
2-Fluorophenol (S)	%	53	17-120	10/17/13 08:40	
Nitrobenzene-d5 (S)	%	93	33-120	10/17/13 08:40	
Phenol-d6 (S)	%	35	11-120	10/17/13 08:40	
Terphenyl-d14 (S)	%	109	45-120	10/17/13 08:40	

LABORATORY CONTROL SAMPLE: 1273430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.6	87	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.0	90	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	24-120	
Hexachloroethane	ug/L	50	36.7	73	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	50.4	101	47-120	
Phenol	ug/L	50	18.1	36	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

MATRIX SPIKE SAMPLE: 1273431

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3690	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4360	87	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4080J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3700	74	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	694J	7	11-120	M1
Hexachloroethane	ug/L	ND	5000	2730	55	40-113	
Naphthalene	ug/L	ND	5000	4030	76	45-120	
Nitrobenzene	ug/L	ND	5000	3620	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4450	89	43-135	
Phenol	ug/L	10900	5000	12200	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				89	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WET/43981 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155346001

METHOD BLANK: 1271150 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/14/13 07:34	

LABORATORY CONTROL SAMPLE: 1271151

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: 1271154

Parameter	Units	60155008003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	4130	46.5	4700	1233	78-114	M1

SAMPLE DUPLICATE: 1271155

Parameter	Units	60155008004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1510	1480	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155346001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WET/44066
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155346001

METHOD BLANK: 1273529
Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/17/13 12:58	

SAMPLE DUPLICATE: 1273530

Parameter	Units	60155244002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	18.0	22.0	20	25	

SAMPLE DUPLICATE: 1273531

Parameter	Units	60155320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5.0	8.0	46	25	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WET/43996
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155346001

SAMPLE DUPLICATE: 1271612

Parameter	Units	60155282001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.6	6.6	1	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WET/43975 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155346001

METHOD BLANK: 1270840 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/17/13 14:50	

LABORATORY CONTROL SAMPLE: 1270841

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1270842

Parameter	Units	5088234001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1430	1470	3	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WETA/26651 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155346001

METHOD BLANK: 1271346 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/14/13 11:58	

LABORATORY CONTROL SAMPLE: 1271347

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

MATRIX SPIKE SAMPLE: 1271348

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	761	400	1100	84	90-110	M1

SAMPLE DUPLICATE: 1271349

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	755	768	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

QC Batch: WETA/26658 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155346001

METHOD BLANK: 1271379 Matrix: Water
Associated Lab Samples: 60155346001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/15/13 14:43	

LABORATORY CONTROL SAMPLE: 1271380

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.5	109	90-110	

MATRIX SPIKE SAMPLE: 1271381

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70100	50000	121000	101	90-110	

MATRIX SPIKE SAMPLE: 1271382

Parameter	Units	60155141001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80000	50000	129000	98	90-110	

MATRIX SPIKE SAMPLE: 1271383

Parameter	Units	60155222001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	98000	50000	142000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-101
Pace Project No.: 60155346

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155346001	**316-101**	EPA 200.7	MPRP/24721	EPA 200.7	ICP/19214
60155346001	**316-101**	EPA 200.7	MPRP/24736	EPA 200.7	ICP/19206
60155346001	**316-101**	EPA 245.1	MERP/7816	EPA 245.1	MERC/7773
60155346001	**316-101**	EPA 245.1	MERP/7823	EPA 245.1	MERC/7779
60155346001	**316-101**	EPA 625	OEXT/41016	EPA 625	MSSV/13009
60155346001	**316-101**	EPA 624 Low	MSV/56969		
60155346002	**TRIP BLANK**	EPA 624 Low	MSV/56969		
60155346001	**316-101**	EPA 1664A	WET/43981		
60155346001	**316-101**	EPA 1664A	WET/44024		
60155346001	**316-101**	SM 2540D	WET/44066		
60155346001	**316-101**	SM 4500-H+B	WET/43996		
60155346001	**316-101**	SM 5210B	WET/43975	SM 5210B	WET/44095
60155346001	**316-101**	EPA 350.1	WETA/26651		
60155346001	**316-101**	EPA 410.4	WETA/26658		

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Sample Condition Upon Receipt

WO# : 60155346

60155346

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JMS 10/12/13 BJO

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	9.	no volume received for 625. AG4U - 100mL
Pace containers used:	☒Yes ☐No ☐N/A		
Containers intact:	☒Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.	
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☒Yes ☐No ☐N/A	13.	
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A		
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: MA	Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 060313-3	☒Yes ☐No ☐N/A	15.	1 of 5 vials w/ headspace
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: 10/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

00155346

5(DG9H) 1(BP3N) 1(BP3S) 2(AG4N) 2(AG1H) 2(BP2U) 1(BP3N)

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-101	OT	G	10/11/13	0945				14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS 001
2	TRIP BLANK								2	2																X						2(DG9H) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Croak / Julie Croak	10/11/13	1430	Bayette Hart #776	10/11/13	1430				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	10/12/13	0030	2.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-11-13

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October 21, 2013

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

RE: Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

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

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155408001	**316-102**	Water	10/12/13 15:45	10/14/13 13:40
60155408002	**TRIP BLANK**	Water	10/12/13 08:00	10/14/13 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155408001	**316-102**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155408002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Sample: 316-102 **Lab ID: 60155408001** Collected: 10/12/13 15:45 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5320**	ug/L	150	2	10/16/13 10:30	10/18/13 16:32	7429-90-5	
Antimony	ND	ug/L	200	20	10/16/13 10:30	10/18/13 16:39	7440-36-0	D3
Arsenic	**830**	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:32	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/16/13 10:30	10/18/13 16:32	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/16/13 10:30	10/18/13 16:36	7440-43-9	D3
Chromium	**296**	ug/L	25.0	5	10/16/13 10:30	10/18/13 16:36	7440-47-3	
Cobalt	**47.7**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:32	7440-48-4	
Copper	ND	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:32	7440-50-8	
Iron	**983000**	ug/L	1000	20	10/16/13 10:30	10/18/13 16:39	7439-89-6	
Lead	**118**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:32	7439-92-1	
Nickel	**105**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:32	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 10:30	10/18/13 16:36	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 10:30	10/18/13 16:32	7440-22-4	
Thallium	ND	ug/L	100	5	10/16/13 10:30	10/18/13 16:36	7440-28-0	
Zinc	**14600**	ug/L	1000	20	10/16/13 10:30	10/18/13 16:39	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3890**	ug/L	150	2	10/14/13 20:30	10/21/13 12:13	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/14/13 20:30	10/18/13 17:16	7440-36-0	D3
Arsenic, Dissolved	**704**	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/14/13 20:30	10/21/13 15:01	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:09	7440-43-9	D3
Chromium, Dissolved	**254**	ug/L	25.0	5	10/14/13 20:30	10/18/13 17:12	7440-47-3	
Cobalt, Dissolved	**39.0**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:09	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:09	7440-50-8	
Iron, Dissolved	**676000**	ug/L	1000	20	10/14/13 20:30	10/21/13 12:27	7439-89-6	
Lead, Dissolved	**77.1**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:09	7439-92-1	
Nickel, Dissolved	**92.1**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/14/13 20:30	10/18/13 17:12	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/14/13 20:30	10/18/13 17:09	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/14/13 20:30	10/18/13 17:12	7440-28-0	D3
Zinc, Dissolved	**11700**	ug/L	1000	20	10/14/13 20:30	10/18/13 17:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.37**	ug/L	0.20	1	10/15/13 09:00	10/15/13 12:37	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	0.20	1	10/15/13 09:00	10/15/13 12:21	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/16/13 00:00	10/17/13 19:21	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Sample: 316-102 **Lab ID: 60155408001** Collected: 10/12/13 15:45 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	87-86-5	
Phenol	**12000**	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:21	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	112	%	33-120	2	10/16/13 00:00	10/17/13 19:21	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	2	10/16/13 00:00	10/17/13 19:21	321-60-8	
Terphenyl-d14 (S)	99	%	45-120	2	10/16/13 00:00	10/17/13 19:21	1718-51-0	
Phenol-d6 (S)	36	%	11-120	2	10/16/13 00:00	10/17/13 19:21	13127-88-3	
2-Fluorophenol (S)	49	%	17-120	2	10/16/13 00:00	10/17/13 19:21	367-12-4	
2,4,6-Tribromophenol (S)	100	%	39-120	2	10/16/13 00:00	10/17/13 19:21	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/17/13 20:24	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/17/13 20:24	75-27-4	
Bromoform	ND	ug/L	200	200		10/17/13 20:24	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/17/13 20:24	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/17/13 20:24	56-23-5	
Chloroethane	ND	ug/L	200	200		10/17/13 20:24	75-00-3	
Chloroform	ND	ug/L	200	200		10/17/13 20:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/17/13 20:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/17/13 20:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/17/13 20:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/17/13 20:24	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/17/13 20:24	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/17/13 20:24	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/17/13 20:24	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/17/13 20:24	127-18-4	
Toluene	ND	ug/L	200	200		10/17/13 20:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/17/13 20:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/17/13 20:24	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/17/13 20:24	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/17/13 20:24	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/17/13 20:24	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		10/17/13 20:24	460-00-4	D3,HS
Toluene-d8 (S)	103	%	80-120	200		10/17/13 20:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		10/17/13 20:24	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/17/13 20:24		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**516**	mg/L	5.0	1		10/15/13 07:31		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/15/13 14:09		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Sample: 316-102 **Lab ID: 60155408001** Collected: 10/12/13 15:45 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2540**	mg/L	5.0	1		10/17/13 13:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.2**	Std. Units	0.10	1		10/15/13 15:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**31900**	mg/L	2.0	1	10/14/13 15:26	10/19/13 12:19		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**774**	mg/L	20.0	200		10/15/13 14:49	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**65400**	mg/L	10000	1000		10/17/13 14:27		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Sample: TRIP BLANK **Lab ID: 60155408002** Collected: 10/12/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/17/13 20:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/17/13 20:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/17/13 20:55	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/17/13 20:55	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/17/13 20:55	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/17/13 20:55	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/17/13 20:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/17/13 20:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/17/13 20:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/17/13 20:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/17/13 20:55	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/17/13 20:55	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/17/13 20:55	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/17/13 20:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/17/13 20:55	127-18-4	
Toluene	ND	ug/L	1.0	1		10/17/13 20:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/17/13 20:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/17/13 20:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/17/13 20:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/17/13 20:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/17/13 20:55	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		10/17/13 20:55	460-00-4	
Toluene-d8 (S)	103	%	80-120	1		10/17/13 20:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		10/17/13 20:55	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/17/13 20:55		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MERP/7824
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155408001

METHOD BLANK: 1272003 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/15/13 12:32	

LABORATORY CONTROL SAMPLE: 1272004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272005 1272006

Parameter	Units	60155408001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.37	5	5	0.51	0.63	3	5	70-130	21	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MERP/7823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155408001

METHOD BLANK: 1271999 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/15/13 12:08	

LABORATORY CONTROL SAMPLE: 1272000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272001 1272002

Parameter	Units	60155222001 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	0.30	0.24	6	5	70-130	23	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MPRP/24756
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155408001

METHOD BLANK: 1272877 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/18/13 16:14	
Antimony	ug/L	ND	10.0	10/18/13 16:14	
Arsenic	ug/L	ND	10.0	10/18/13 16:14	
Beryllium	ug/L	ND	1.0	10/18/13 16:14	
Cadmium	ug/L	ND	5.0	10/18/13 16:14	
Chromium	ug/L	ND	5.0	10/18/13 16:14	
Cobalt	ug/L	ND	5.0	10/18/13 16:14	
Copper	ug/L	ND	10.0	10/18/13 16:14	
Iron	ug/L	ND	50.0	10/18/13 16:14	
Lead	ug/L	ND	5.0	10/18/13 16:14	
Nickel	ug/L	ND	5.0	10/18/13 16:14	
Selenium	ug/L	ND	15.0	10/18/13 16:14	
Silver	ug/L	ND	7.0	10/18/13 16:14	
Thallium	ug/L	ND	20.0	10/18/13 16:14	
Zinc	ug/L	ND	50.0	10/18/13 16:14	

LABORATORY CONTROL SAMPLE: 1272878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9900	99	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	976	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	988	99	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	977	98	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lead	ug/L	1000	982	98	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	483	97	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	986	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	393	10000	10000	10900	11200	105	108	70-130	3	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	1040	1060	104	106	70-130	2	7	
Cadmium	ug/L	0.013 mg/L	1000	1000	1030	1020	102	101	70-130	1	10	
Chromium	ug/L	0.21 mg/L	1000	1000	1210	1190	100	98	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper	ug/L	0.031 mg/L	1000	1000	1060	1050	103	102	70-130	1	11	
Iron	ug/L	1410	10000	10000	11600	11900	102	105	70-130	2	10	
Lead	ug/L	0.064 mg/L	1000	1000	1070	1060	100	99	70-130	1	10	
Nickel	ug/L	1.6 mg/L	1000	1000	2550	2540	96	94	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Silver	ug/L	ND	500	500	504	498	101	99	70-130	1	10	
Thallium	ug/L	ND	1000	1000	993	980	99	98	70-130	1	6	
Zinc	ug/L	0.19 mg/L	1000	1000	1170	1160	98	97	70-130	1	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MPRP/24736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155408001

METHOD BLANK: 1271854 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/17/13 12:28	
Antimony, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Arsenic, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Beryllium, Dissolved	ug/L	ND	1.0	10/17/13 12:28	
Cadmium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Chromium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Cobalt, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Copper, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Iron, Dissolved	ug/L	ND	50.0	10/17/13 12:28	
Lead, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Nickel, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Selenium, Dissolved	ug/L	ND	15.0	10/17/13 12:28	
Silver, Dissolved	ug/L	ND	7.0	10/17/13 12:28	
Thallium, Dissolved	ug/L	ND	20.0	10/17/13 12:28	
Zinc, Dissolved	ug/L	ND	50.0	10/17/13 12:28	

LABORATORY CONTROL SAMPLE: 1271855

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	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	969	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	985	98	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	995	100	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	999	100	85-115	
Silver, Dissolved	ug/L	500	480	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 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	3730	10000	10000	13700	12700	100	90	70-130	8	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	916	845	84	77	70-130	8	7	R1
Arsenic, Dissolved	ug/L	690	1000	1000	1730	1620	104	93	70-130	6	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	901	808	90	81	70-130	11	7	R1
Cadmium, Dissolved	ug/L	ND	1000	1000	975	881	98	88	70-130	10	10	
Chromium, Dissolved	ug/L	257	1000	1000	1150	1070	89	82	70-130	7	10	
Cobalt, Dissolved	ug/L	37.4	1000	1000	905	821	87	78	70-130	10	6	R1
Copper, Dissolved	ug/L	ND	1000	1000	975	880	97	88	70-130	10	11	
Iron, Dissolved	ug/L	686000	10000	10000	680000	718000	-58	322	70-130	5	10	M1
Lead, Dissolved	ug/L	66.6	1000	1000	867	779	80	71	70-130	11	10	R1
Nickel, Dissolved	ug/L	88.4	1000	1000	952	866	86	78	70-130	9	10	
Selenium, Dissolved	ug/L	ND	1000	1000	973	923	97	92	70-130	5	10	
Silver, Dissolved	ug/L	ND	500	500	17.6	16.4	4	3	70-130	7	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	735	696	74	70	70-130	5	6	
Zinc, Dissolved	ug/L	12000	1000	1000	12900	13200	98	123	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MSV/57045 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155408001, 60155408002

METHOD BLANK: 1273865 Matrix: Water
Associated Lab Samples: 60155408001, 60155408002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/17/13 20:09	
Benzene	ug/L	ND	1.0	10/17/13 20:09	
Bromodichloromethane	ug/L	ND	1.0	10/17/13 20:09	
Bromoform	ug/L	ND	1.0	10/17/13 20:09	
Bromomethane	ug/L	ND	5.0	10/17/13 20:09	
Carbon tetrachloride	ug/L	ND	1.0	10/17/13 20:09	
Chloroethane	ug/L	ND	1.0	10/17/13 20:09	
Chloroform	ug/L	ND	1.0	10/17/13 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Ethylbenzene	ug/L	ND	1.0	10/17/13 20:09	
Methylene chloride	ug/L	ND	1.0	10/17/13 20:09	
Tetrachloroethene	ug/L	ND	1.0	10/17/13 20:09	
Toluene	ug/L	ND	1.0	10/17/13 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Trichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Vinyl chloride	ug/L	ND	1.0	10/17/13 20:09	
Xylene (Total)	ug/L	ND	3.0	10/17/13 20:09	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/17/13 20:09	
4-Bromofluorobenzene (S)	%	99	80-120	10/17/13 20:09	
Toluene-d8 (S)	%	104	80-120	10/17/13 20:09	

LABORATORY CONTROL SAMPLE: 1273866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.1	96	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	59-138	
1,1,2-Trichloroethane	ug/L	20	17.9	90	69-127	
1,2-Dichloroethane	ug/L	20	19.5	97	71-129	
1,4-Dichlorobenzene	ug/L	20	17.9	89	68-124	
Benzene	ug/L	20	18.9	94	73-129	
Bromodichloromethane	ug/L	20	18.4	92	63-129	
Bromoform	ug/L	20	13.9	70	52-123	
Bromomethane	ug/L	20	7.1	36	10-160	
Carbon tetrachloride	ug/L	20	18.5	92	70-140	
Chloroethane	ug/L	20	24.3	122	42-160	
Chloroform	ug/L	20	19.2	96	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.0	95	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

LABORATORY CONTROL SAMPLE: 1273866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	91	66-133	
Methylene chloride	ug/L	20	19.6	98	56-135	
Tetrachloroethene	ug/L	20	17.7	88	64-143	
Toluene	ug/L	20	19.5	98	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.3	96	71-130	
Vinyl chloride	ug/L	20	15.1	75	41-160	
Xylene (Total)	ug/L	60	54.9	92	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1273867

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3620	90	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3810	95	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3910	98	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3730	91	18-147	
Benzene	ug/L	ND	4000	4090	101	37-151	
Bromodichloromethane	ug/L	ND	4000	3820	96	35-155	
Bromoform	ug/L	ND	4000	2930	73	45-133	
Bromomethane	ug/L	ND	4000	1250	31	10-160	
Carbon tetrachloride	ug/L	ND	4000	4350	109	70-140	
Chloroethane	ug/L	ND	4000	4470	112	14-160	
Chloroform	ug/L	ND	4000	4000	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4110	103	19-160	
Ethylbenzene	ug/L	ND	4000	4040	101	37-154	
Methylene chloride	ug/L	ND	4000	3930	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4060	100	64-148	
Toluene	ug/L	ND	4000	3970	99	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4230	106	54-156	
Trichloroethene	ug/L	ND	4000	4090	102	71-157	
Vinyl chloride	ug/L	ND	4000	3490	87	10-160	
Xylene (Total)	ug/L	ND	12000	12300	102	12-153	
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: OEXT/41016 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155408001

METHOD BLANK: 1273429 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/17/13 08:40	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/17/13 08:40	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachloroethane	ug/L	ND	5.0	10/17/13 08:40	
Naphthalene	ug/L	ND	5.0	10/17/13 08:40	
Nitrobenzene	ug/L	ND	5.0	10/17/13 08:40	
Pentachlorophenol	ug/L	ND	5.0	10/17/13 08:40	
Phenol	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Tribromophenol (S)	%	110	39-120	10/17/13 08:40	
2-Fluorobiphenyl (S)	%	98	39-120	10/17/13 08:40	
2-Fluorophenol (S)	%	53	17-120	10/17/13 08:40	
Nitrobenzene-d5 (S)	%	93	33-120	10/17/13 08:40	
Phenol-d6 (S)	%	35	11-120	10/17/13 08:40	
Terphenyl-d14 (S)	%	109	45-120	10/17/13 08:40	

LABORATORY CONTROL SAMPLE: 1273430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.6	87	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.0	90	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	24-120	
Hexachloroethane	ug/L	50	36.7	73	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	50.4	101	47-120	
Phenol	ug/L	50	18.1	36	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

MATRIX SPIKE SAMPLE: 1273431

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3690	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4360	87	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4080J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3700	74	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	694J	7	11-120	M1
Hexachloroethane	ug/L	ND	5000	2730	55	40-113	
Naphthalene	ug/L	ND	5000	4030	76	45-120	
Nitrobenzene	ug/L	ND	5000	3620	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4450	89	43-135	
Phenol	ug/L	10900	5000	12200	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				89	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WET/44008
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155408001

METHOD BLANK: 1271796 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/15/13 07:31	

LABORATORY CONTROL SAMPLE: 1271797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1271801

Parameter	Units	60155102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	5.7	40	38.9	83	78-114	

SAMPLE DUPLICATE: 1271803

Parameter	Units	60155132004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	4.8J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155408001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WET/44066
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155408001

METHOD BLANK: 1273529
Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/17/13 12:58	

SAMPLE DUPLICATE: 1273530

Parameter	Units	60155244002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	18.0	22.0	20	25	

SAMPLE DUPLICATE: 1273531

Parameter	Units	60155320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5.0	8.0	46	25	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WET/44026
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155408001

SAMPLE DUPLICATE: 1272382

Parameter	Units	60155408001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.2	6.2	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WET/44004
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155408001

METHOD BLANK: 1271710 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/19/13 12:10	

LABORATORY CONTROL SAMPLE: 1271711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1271712

Parameter	Units	60155405003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1350	1370	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WETA/26671 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155408001

METHOD BLANK: 1271927 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/15/13 14:47	

LABORATORY CONTROL SAMPLE: 1271928

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

MATRIX SPIKE SAMPLE: 1271929

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	774	400	1110	84	90-110	M1

SAMPLE DUPLICATE: 1271930

Parameter	Units	60155410001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	724	726	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: WETA/26708 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155408001

METHOD BLANK: 1273095 Matrix: Water
Associated Lab Samples: 60155408001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/17/13 14:27	

LABORATORY CONTROL SAMPLE: 1273096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1273097

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65400	50000	118000	105	90-110	

MATRIX SPIKE SAMPLE: 1273098

Parameter	Units	60155409001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	62600	50000	117000	108	90-110	

MATRIX SPIKE SAMPLE: 1273099

Parameter	Units	60155410001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70500	50000	119000	97	90-110	

MATRIX SPIKE SAMPLE: 1273100

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66800	50000	116000	97	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
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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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155408001	**316-102**	EPA 200.7	MPRP/24756	EPA 200.7	ICP/19222
60155408001	**316-102**	EPA 200.7	MPRP/24736	EPA 200.7	ICP/19206
60155408001	**316-102**	EPA 245.1	MERP/7824	EPA 245.1	MERC/7780
60155408001	**316-102**	EPA 245.1	MERP/7823	EPA 245.1	MERC/7779
60155408001	**316-102**	EPA 625	OEXT/41016	EPA 625	MSSV/13009
60155408001	**316-102**	EPA 624 Low	MSV/57045		
60155408002	**TRIP BLANK**	EPA 624 Low	MSV/57045		
60155408001	**316-102**	EPA 1664A	WET/44008		
60155408001	**316-102**	EPA 1664A	WET/44024		
60155408001	**316-102**	SM 2540D	WET/44066		
60155408001	**316-102**	SM 4500-H+B	WET/44026		
60155408001	**316-102**	SM 5210B	WET/44004	SM 5210B	WET/44131
60155408001	**316-102**	EPA 350.1	WETA/26671		
60155408001	**316-102**	EPA 410.4	WETA/26708		

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Sample Condition Upon Receipt

WO# : 60155408

60155408

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DMS 10/14/13 1350

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	(BP3N) (BP3S) Unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed: DMS — Lot # of added preservative: 12510-1-3
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 260313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	40A vials w/headspace (316-102)
		16. APPLY QUALIFIER TO SAMPLE BASED ON HISTORICAL INSTRUCTIONS
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date 10/15/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-102	OT	G	10/2/13	1545				14	10	1	1	2					X	X	X	X	X	X	X	X	X	X			LOG samples as OQS 001
2	TRIP BLANK								2	2															X					2(DI 5mL) 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																														

0155408

1(BP3N) 1(BP3S) 1(BP3N) 4(BP3N) 2(AG1H) 2(AG1U) 2(BP3N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng	10-14-13	0935	[signature]	10-14-13	0935
SITE ADDRESS: BRIDGETON LF				[signature] Pace	10/14/13	1340
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)
1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: [signature]

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-12-13

Pace Analytical Services, Inc.
9608 Loiret Blvd.
Lenexa, KS 66219
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October 21, 2013

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

RE: Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

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

REPORT OF LABORATORY ANALYSIS

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

SAMPLE SUMMARY

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155409001	**316-103**	Water	10/13/13 11:05	10/14/13 13:40
60155409002	**TRIP BLANK**	Water	10/13/13 08:00	10/14/13 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155409001	**316-103**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155409002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Sample: 316-103 **Lab ID: 60155409001** Collected: 10/13/13 11:05 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5100**	ug/L	150	2	10/16/13 10:30	10/18/13 16:42	7429-90-5	
Antimony	ND	ug/L	200	20	10/16/13 10:30	10/18/13 16:55	7440-36-0	D3
Arsenic	**798**	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:42	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/16/13 10:30	10/18/13 16:42	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/16/13 10:30	10/18/13 16:52	7440-43-9	D3
Chromium	**278**	ug/L	25.0	5	10/16/13 10:30	10/18/13 16:52	7440-47-3	
Cobalt	**47.5**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:42	7440-48-4	
Copper	ND	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:42	7440-50-8	
Iron	**886000**	ug/L	1000	20	10/16/13 10:30	10/21/13 12:37	7439-89-6	
Lead	**109**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:42	7439-92-1	
Nickel	**103**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:42	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 10:30	10/18/13 16:52	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 10:30	10/18/13 16:42	7440-22-4	
Thallium	ND	ug/L	100	5	10/16/13 10:30	10/18/13 16:52	7440-28-0	
Zinc	**12700**	ug/L	1000	20	10/16/13 10:30	10/18/13 16:55	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3650**	ug/L	150	2	10/14/13 20:30	10/21/13 12:17	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/14/13 20:30	10/18/13 17:39	7440-36-0	D3
Arsenic, Dissolved	**669**	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:19	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/14/13 20:30	10/21/13 15:04	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:19	7440-43-9	D3
Chromium, Dissolved	**240**	ug/L	25.0	5	10/14/13 20:30	10/18/13 17:22	7440-47-3	
Cobalt, Dissolved	**39.6**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:19	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:19	7440-50-8	
Iron, Dissolved	**655000**	ug/L	1000	20	10/14/13 20:30	10/21/13 12:30	7439-89-6	
Lead, Dissolved	**75.9**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:19	7439-92-1	
Nickel, Dissolved	**90.9**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:19	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/14/13 20:30	10/18/13 17:22	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/14/13 20:30	10/18/13 17:19	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/14/13 20:30	10/18/13 17:22	7440-28-0	D3
Zinc, Dissolved	**10800**	ug/L	1000	20	10/14/13 20:30	10/18/13 17:39	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.26**	ug/L	0.20	1	10/15/13 09:00	10/15/13 12:44	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	10/15/13 09:00	10/15/13 12:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/16/13 00:00	10/17/13 19:42	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Sample: 316-103 **Lab ID: 60155409001** Collected: 10/13/13 11:05 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	87-86-5	
Phenol	**9580**	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 19:42	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	104	%	33-120	2	10/16/13 00:00	10/17/13 19:42	4165-60-0	
2-Fluorobiphenyl (S)	78	%	39-120	2	10/16/13 00:00	10/17/13 19:42	321-60-8	
Terphenyl-d14 (S)	91	%	45-120	2	10/16/13 00:00	10/17/13 19:42	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	10/16/13 00:00	10/17/13 19:42	13127-88-3	
2-Fluorophenol (S)	42	%	17-120	2	10/16/13 00:00	10/17/13 19:42	367-12-4	
2,4,6-Tribromophenol (S)	91	%	39-120	2	10/16/13 00:00	10/17/13 19:42	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/17/13 21:10	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/17/13 21:10	75-27-4	
Bromoform	ND	ug/L	200	200		10/17/13 21:10	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/17/13 21:10	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/17/13 21:10	56-23-5	
Chloroethane	ND	ug/L	200	200		10/17/13 21:10	75-00-3	
Chloroform	ND	ug/L	200	200		10/17/13 21:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/17/13 21:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/17/13 21:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/17/13 21:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/17/13 21:10	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/17/13 21:10	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/17/13 21:10	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/17/13 21:10	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/17/13 21:10	127-18-4	
Toluene	ND	ug/L	200	200		10/17/13 21:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/17/13 21:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/17/13 21:10	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/17/13 21:10	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/17/13 21:10	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/17/13 21:10	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	200		10/17/13 21:10	460-00-4	D3,HS
Toluene-d8 (S)	102	%	80-120	200		10/17/13 21:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		10/17/13 21:10	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/17/13 21:10		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**404**	mg/L	5.0	1		10/15/13 07:32		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.7**	mg/L	5.0	1		10/15/13 14:09		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Sample: 316-103 **Lab ID: 60155409001** Collected: 10/13/13 11:05 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2980**	mg/L	5.0	1		10/17/13 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		10/15/13 15:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30700**	mg/L	2.0	1	10/14/13 15:28	10/19/13 12:24		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**731**	mg/L	20.0	200		10/15/13 14:54	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**62600**	mg/L	10000	1000		10/17/13 14:27		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

Sample: TRIP BLANK **Lab ID: 60155409002** Collected: 10/13/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/17/13 21:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/17/13 21:25	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/17/13 21:25	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/17/13 21:25	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/17/13 21:25	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/17/13 21:25	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/17/13 21:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/17/13 21:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/17/13 21:25	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/17/13 21:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/17/13 21:25	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/17/13 21:25	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/17/13 21:25	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/17/13 21:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/17/13 21:25	127-18-4	
Toluene	ND	ug/L	1.0	1		10/17/13 21:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/17/13 21:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/17/13 21:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/17/13 21:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/17/13 21:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/17/13 21:25	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		10/17/13 21:25	460-00-4	
Toluene-d8 (S)	105	%	80-120	1		10/17/13 21:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		10/17/13 21:25	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/17/13 21:25		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MERP/7824
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155409001

METHOD BLANK: 1272003 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/15/13 12:32	

LABORATORY CONTROL SAMPLE: 1272004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272005 1272006

Parameter	Units	60155408001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.37	5	5	0.51	0.63	3	5	70-130	21	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MERP/7823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155409001

METHOD BLANK: 1271999 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/15/13 12:08	

LABORATORY CONTROL SAMPLE: 1272000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272001 1272002

Parameter	Units	60155222001 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	0.30	0.24	6	5	70-130	23	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MPRP/24756
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155409001

METHOD BLANK: 1272877 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/18/13 16:14	
Antimony	ug/L	ND	10.0	10/18/13 16:14	
Arsenic	ug/L	ND	10.0	10/18/13 16:14	
Beryllium	ug/L	ND	1.0	10/18/13 16:14	
Cadmium	ug/L	ND	5.0	10/18/13 16:14	
Chromium	ug/L	ND	5.0	10/18/13 16:14	
Cobalt	ug/L	ND	5.0	10/18/13 16:14	
Copper	ug/L	ND	10.0	10/18/13 16:14	
Iron	ug/L	ND	50.0	10/18/13 16:14	
Lead	ug/L	ND	5.0	10/18/13 16:14	
Nickel	ug/L	ND	5.0	10/18/13 16:14	
Selenium	ug/L	ND	15.0	10/18/13 16:14	
Silver	ug/L	ND	7.0	10/18/13 16:14	
Thallium	ug/L	ND	20.0	10/18/13 16:14	
Zinc	ug/L	ND	50.0	10/18/13 16:14	

LABORATORY CONTROL SAMPLE: 1272878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9900	99	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	976	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	988	99	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	977	98	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lead	ug/L	1000	982	98	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	483	97	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	986	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	393	10000	10000	10900	11200	105	108	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	1040	1060	104	106	70-130	2	7	
Cadmium	ug/L	0.013 mg/L	1000	1000	1030	1020	102	101	70-130	1	10	
Chromium	ug/L	0.21 mg/L	1000	1000	1210	1190	100	98	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper	ug/L	0.031 mg/L	1000	1000	1060	1050	103	102	70-130	1	11	
Iron	ug/L	1410	10000	10000	11600	11900	102	105	70-130	2	10	
Lead	ug/L	0.064 mg/L	1000	1000	1070	1060	100	99	70-130	1	10	
Nickel	ug/L	1.6 mg/L	1000	1000	2550	2540	96	94	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Silver	ug/L	ND	500	500	504	498	101	99	70-130	1	10	
Thallium	ug/L	ND	1000	1000	993	980	99	98	70-130	1	6	
Zinc	ug/L	0.19 mg/L	1000	1000	1170	1160	98	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MPRP/24736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155409001

METHOD BLANK: 1271854 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/17/13 12:28	
Antimony, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Arsenic, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Beryllium, Dissolved	ug/L	ND	1.0	10/17/13 12:28	
Cadmium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Chromium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Cobalt, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Copper, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Iron, Dissolved	ug/L	ND	50.0	10/17/13 12:28	
Lead, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Nickel, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Selenium, Dissolved	ug/L	ND	15.0	10/17/13 12:28	
Silver, Dissolved	ug/L	ND	7.0	10/17/13 12:28	
Thallium, Dissolved	ug/L	ND	20.0	10/17/13 12:28	
Zinc, Dissolved	ug/L	ND	50.0	10/17/13 12:28	

LABORATORY CONTROL SAMPLE: 1271855

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	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	969	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	985	98	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	995	100	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	999	100	85-115	
Silver, Dissolved	ug/L	500	480	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 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	3730	10000	10000	13700	12700	100	90	70-130	8	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	916	845	84	77	70-130	8	7	R1
Arsenic, Dissolved	ug/L	690	1000	1000	1730	1620	104	93	70-130	6	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	901	808	90	81	70-130	11	7	R1
Cadmium, Dissolved	ug/L	ND	1000	1000	975	881	98	88	70-130	10	10	
Chromium, Dissolved	ug/L	257	1000	1000	1150	1070	89	82	70-130	7	10	
Cobalt, Dissolved	ug/L	37.4	1000	1000	905	821	87	78	70-130	10	6	R1
Copper, Dissolved	ug/L	ND	1000	1000	975	880	97	88	70-130	10	11	
Iron, Dissolved	ug/L	686000	10000	10000	680000	718000	-58	322	70-130	5	10	M1
Lead, Dissolved	ug/L	66.6	1000	1000	867	779	80	71	70-130	11	10	R1
Nickel, Dissolved	ug/L	88.4	1000	1000	952	866	86	78	70-130	9	10	
Selenium, Dissolved	ug/L	ND	1000	1000	973	923	97	92	70-130	5	10	
Silver, Dissolved	ug/L	ND	500	500	17.6	16.4	4	3	70-130	7	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	735	696	74	70	70-130	5	6	
Zinc, Dissolved	ug/L	12000	1000	1000	12900	13200	98	123	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MSV/57045
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155409001, 60155409002

METHOD BLANK: 1273865
Matrix: Water
Associated Lab Samples: 60155409001, 60155409002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,2-Dichloroethane	ug/L	ND	1.0	10/17/13 20:09	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/17/13 20:09	
Benzene	ug/L	ND	1.0	10/17/13 20:09	
Bromodichloromethane	ug/L	ND	1.0	10/17/13 20:09	
Bromoform	ug/L	ND	1.0	10/17/13 20:09	
Bromomethane	ug/L	ND	5.0	10/17/13 20:09	
Carbon tetrachloride	ug/L	ND	1.0	10/17/13 20:09	
Chloroethane	ug/L	ND	1.0	10/17/13 20:09	
Chloroform	ug/L	ND	1.0	10/17/13 20:09	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Ethylbenzene	ug/L	ND	1.0	10/17/13 20:09	
Methylene chloride	ug/L	ND	1.0	10/17/13 20:09	
Tetrachloroethene	ug/L	ND	1.0	10/17/13 20:09	
Toluene	ug/L	ND	1.0	10/17/13 20:09	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Trichloroethene	ug/L	ND	1.0	10/17/13 20:09	
Vinyl chloride	ug/L	ND	1.0	10/17/13 20:09	
Xylene (Total)	ug/L	ND	3.0	10/17/13 20:09	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/17/13 20:09	
4-Bromofluorobenzene (S)	%	99	80-120	10/17/13 20:09	
Toluene-d8 (S)	%	104	80-120	10/17/13 20:09	

LABORATORY CONTROL SAMPLE: 1273866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.1	96	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	91	59-138	
1,1,2-Trichloroethane	ug/L	20	17.9	90	69-127	
1,2-Dichloroethane	ug/L	20	19.5	97	71-129	
1,4-Dichlorobenzene	ug/L	20	17.9	89	68-124	
Benzene	ug/L	20	18.9	94	73-129	
Bromodichloromethane	ug/L	20	18.4	92	63-129	
Bromoform	ug/L	20	13.9	70	52-123	
Bromomethane	ug/L	20	7.1	36	10-160	
Carbon tetrachloride	ug/L	20	18.5	92	70-140	
Chloroethane	ug/L	20	24.3	122	42-160	
Chloroform	ug/L	20	19.2	96	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.0	95	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

LABORATORY CONTROL SAMPLE: 1273866

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.1	91	66-133	
Methylene chloride	ug/L	20	19.6	98	56-135	
Tetrachloroethene	ug/L	20	17.7	88	64-143	
Toluene	ug/L	20	19.5	98	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.3	96	71-130	
Vinyl chloride	ug/L	20	15.1	75	41-160	
Xylene (Total)	ug/L	60	54.9	92	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1273867

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4120	103	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3620	90	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3810	95	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3910	98	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3730	91	18-147	
Benzene	ug/L	ND	4000	4090	101	37-151	
Bromodichloromethane	ug/L	ND	4000	3820	96	35-155	
Bromoform	ug/L	ND	4000	2930	73	45-133	
Bromomethane	ug/L	ND	4000	1250	31	10-160	
Carbon tetrachloride	ug/L	ND	4000	4350	109	70-140	
Chloroethane	ug/L	ND	4000	4470	112	14-160	
Chloroform	ug/L	ND	4000	4000	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4110	103	19-160	
Ethylbenzene	ug/L	ND	4000	4040	101	37-154	
Methylene chloride	ug/L	ND	4000	3930	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4060	100	64-148	
Toluene	ug/L	ND	4000	3970	99	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4230	106	54-156	
Trichloroethene	ug/L	ND	4000	4090	102	71-157	
Vinyl chloride	ug/L	ND	4000	3490	87	10-160	
Xylene (Total)	ug/L	ND	12000	12300	102	12-153	
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: OEXT/41016
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155409001

METHOD BLANK: 1273429 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/17/13 08:40	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/17/13 08:40	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachloroethane	ug/L	ND	5.0	10/17/13 08:40	
Naphthalene	ug/L	ND	5.0	10/17/13 08:40	
Nitrobenzene	ug/L	ND	5.0	10/17/13 08:40	
Pentachlorophenol	ug/L	ND	5.0	10/17/13 08:40	
Phenol	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Tribromophenol (S)	%	110	39-120	10/17/13 08:40	
2-Fluorobiphenyl (S)	%	98	39-120	10/17/13 08:40	
2-Fluorophenol (S)	%	53	17-120	10/17/13 08:40	
Nitrobenzene-d5 (S)	%	93	33-120	10/17/13 08:40	
Phenol-d6 (S)	%	35	11-120	10/17/13 08:40	
Terphenyl-d14 (S)	%	109	45-120	10/17/13 08:40	

LABORATORY CONTROL SAMPLE: 1273430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.6	87	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.0	90	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	24-120	
Hexachloroethane	ug/L	50	36.7	73	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	50.4	101	47-120	
Phenol	ug/L	50	18.1	36	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

MATRIX SPIKE SAMPLE: 1273431

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3690	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4360	87	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4080J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3700	74	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	694J	7	11-120	M1
Hexachloroethane	ug/L	ND	5000	2730	55	40-113	
Naphthalene	ug/L	ND	5000	4030	76	45-120	
Nitrobenzene	ug/L	ND	5000	3620	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4450	89	43-135	
Phenol	ug/L	10900	5000	12200	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				89	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WET/44008
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155409001

METHOD BLANK: 1271796 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/15/13 07:31	

LABORATORY CONTROL SAMPLE: 1271797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1271801

Parameter	Units	60155102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	5.7	40	38.9	83	78-114	

SAMPLE DUPLICATE: 1271803

Parameter	Units	60155132004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	4.8J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155409001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WET/44066
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155409001

METHOD BLANK: 1273529
Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/17/13 12:58	

SAMPLE DUPLICATE: 1273530

Parameter	Units	60155244002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	18.0	22.0	20	25	

SAMPLE DUPLICATE: 1273531

Parameter	Units	60155320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5.0	8.0	46	25	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WET/44026
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155409001

SAMPLE DUPLICATE: 1272382

Parameter	Units	60155408001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.2	6.2	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WET/44004 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155409001

METHOD BLANK: 1271710 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/19/13 12:10	

LABORATORY CONTROL SAMPLE: 1271711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1271712

Parameter	Units	60155405003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1350	1370	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WETA/26671 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155409001

METHOD BLANK: 1271927 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/15/13 14:47	

LABORATORY CONTROL SAMPLE: 1271928

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

MATRIX SPIKE SAMPLE: 1271929

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	774	400	1110	84	90-110	M1

SAMPLE DUPLICATE: 1271930

Parameter	Units	60155410001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	724	726	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: WETA/26708
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60155409001

METHOD BLANK: 1273095 Matrix: Water
Associated Lab Samples: 60155409001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/17/13 14:27	

LABORATORY CONTROL SAMPLE: 1273096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1273097

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65400	50000	118000	105	90-110	

MATRIX SPIKE SAMPLE: 1273098

Parameter	Units	60155409001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	62600	50000	117000	108	90-110	

MATRIX SPIKE SAMPLE: 1273099

Parameter	Units	60155410001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70500	50000	119000	97	90-110	

MATRIX SPIKE SAMPLE: 1273100

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66800	50000	116000	97	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
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 LF 316-103
Pace Project No.: 60155409

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155409001	**316-103**	EPA 200.7	MPRP/24756	EPA 200.7	ICP/19222
60155409001	**316-103**	EPA 200.7	MPRP/24736	EPA 200.7	ICP/19206
60155409001	**316-103**	EPA 245.1	MERP/7824	EPA 245.1	MERC/7780
60155409001	**316-103**	EPA 245.1	MERP/7823	EPA 245.1	MERC/7779
60155409001	**316-103**	EPA 625	OEXT/41016	EPA 625	MSSV/13009
60155409001	**316-103**	EPA 624 Low	MSV/57045		
60155409002	**TRIP BLANK**	EPA 624 Low	MSV/57045		
60155409001	**316-103**	EPA 1664A	WET/44008		
60155409001	**316-103**	EPA 1664A	WET/44024		
60155409001	**316-103**	SM 2540D	WET/44066		
60155409001	**316-103**	SM 4500-H+B	WET/44026		
60155409001	**316-103**	SM 5210B	WET/44004	SM 5210B	WET/44131
60155409001	**316-103**	EPA 350.1	WETA/26671		
60155409001	**316-103**	EPA 410.4	WETA/26708		

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Sample Condition Upon Receipt

WO# : 60155409

60155409

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Eng

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

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-112) / T-194 Type of Ice: (Wet) Blue None (circle one) ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: TJS 10/14/13

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	(BP3N) (BP3S) unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed TJS / Lot # of added preservative 12510-1-3
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 060313-3		15.
Headspace in VOA vials (>6mm):	☒Yes ☒No ☐N/A	16. headspace in 5 of 5 vials 316-103 only - Apply Qualifier
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State: BASED ON HISTORICAL INSTRUCTIONS

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 10/15/13

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	60155409 5(DEGM) 2(OA(GM) 2(AE1W) 2(BP2N) 1(BP3N) 1(BP2N)[1.5] 1(BP3S)[5]	
1	316-103	OT	G	10/13/13	1105				14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS	001
2	TRIP BLANK								2	2																X						2(DG9M)	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] / Feezor Eng.	10-14-13	0935	[signature]	10/14/13	0935				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	10/14/13	1340	1.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-13-13

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October 22, 2013

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

RE: Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 14, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155410001	**316-104**	Water	10/14/13 08:00	10/14/13 13:40
60155410002	**TRIP BLANK**	Water	10/14/13 08:00	10/14/13 13:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155410001	**316-104**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155410002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Sample: 316-104 **Lab ID: 60155410001** Collected: 10/14/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5780**	ug/L	150	2	10/16/13 10:30	10/21/13 12:24	7429-90-5	
Antimony	ND	ug/L	200	20	10/16/13 10:30	10/18/13 17:06	7440-36-0	D3
Arsenic	**840**	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:59	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/16/13 10:30	10/21/13 15:11	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/16/13 10:30	10/18/13 17:02	7440-43-9	D3
Chromium	**298**	ug/L	25.0	5	10/16/13 10:30	10/18/13 17:02	7440-47-3	
Cobalt	**47.5**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:59	7440-48-4	
Copper	ND	ug/L	20.0	2	10/16/13 10:30	10/18/13 16:59	7440-50-8	D3
Iron	**1080000**	ug/L	1000	20	10/16/13 10:30	10/21/13 12:40	7439-89-6	
Lead	**137**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:59	7439-92-1	
Nickel	**105**	ug/L	10.0	2	10/16/13 10:30	10/18/13 16:59	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 10:30	10/18/13 17:02	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 10:30	10/18/13 16:59	7440-22-4	
Thallium	ND	ug/L	100	5	10/16/13 10:30	10/18/13 17:02	7440-28-0	
Zinc	**13800**	ug/L	1000	20	10/16/13 10:30	10/18/13 17:06	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3880**	ug/L	150	2	10/14/13 20:30	10/21/13 12:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/14/13 20:30	10/18/13 17:42	7440-36-0	D3
Arsenic, Dissolved	**666**	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:32	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/14/13 20:30	10/21/13 15:08	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:32	7440-43-9	D3
Chromium, Dissolved	**246**	ug/L	25.0	5	10/14/13 20:30	10/18/13 17:36	7440-47-3	
Cobalt, Dissolved	**38.3**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:32	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/14/13 20:30	10/18/13 17:32	7440-50-8	
Iron, Dissolved	**733000**	ug/L	1000	20	10/14/13 20:30	10/21/13 12:34	7439-89-6	
Lead, Dissolved	**78.1**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:32	7439-92-1	
Nickel, Dissolved	**88.8**	ug/L	10.0	2	10/14/13 20:30	10/18/13 17:32	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/14/13 20:30	10/18/13 17:36	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/14/13 20:30	10/18/13 17:32	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/14/13 20:30	10/18/13 17:36	7440-28-0	D3
Zinc, Dissolved	**11200**	ug/L	1000	20	10/14/13 20:30	10/18/13 17:42	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.44**	ug/L	0.20	1	10/15/13 09:00	10/15/13 12:46	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	10/15/13 09:00	10/15/13 12:30	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/16/13 00:00	10/17/13 20:02	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Sample: 316-104 **Lab ID: 60155410001** Collected: 10/14/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	87-86-5	
Phenol	**10000**	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/16/13 00:00	10/17/13 20:02	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	10/16/13 00:00	10/17/13 20:02	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	10/16/13 00:00	10/17/13 20:02	321-60-8	
Terphenyl-d14 (S)	94	%	45-120	2	10/16/13 00:00	10/17/13 20:02	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	10/16/13 00:00	10/17/13 20:02	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	10/16/13 00:00	10/17/13 20:02	367-12-4	
2,4,6-Tribromophenol (S)	93	%	39-120	2	10/16/13 00:00	10/17/13 20:02	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/19/13 10:28	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/19/13 10:28	75-27-4	
Bromoform	ND	ug/L	200	200		10/19/13 10:28	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/19/13 10:28	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/19/13 10:28	56-23-5	
Chloroethane	ND	ug/L	200	200		10/19/13 10:28	75-00-3	
Chloroform	ND	ug/L	200	200		10/19/13 10:28	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/19/13 10:28	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/19/13 10:28	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 10:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 10:28	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/19/13 10:28	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/19/13 10:28	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/19/13 10:28	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/19/13 10:28	127-18-4	
Toluene	ND	ug/L	200	200		10/19/13 10:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/19/13 10:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/19/13 10:28	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/19/13 10:28	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/19/13 10:28	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/19/13 10:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	200		10/19/13 10:28	460-00-4	D3,HS
Toluene-d8 (S)	102	%	80-120	200		10/19/13 10:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	200		10/19/13 10:28	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/19/13 10:28		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**420**	mg/L	5.0	1		10/15/13 07:32		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.8**	mg/L	5.0	1		10/15/13 14:10		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Sample: 316-104 **Lab ID: 60155410001** Collected: 10/14/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3660**	mg/L	5.0	1		10/17/13 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/15/13 15:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**31200**	mg/L	2.0	1	10/14/13 15:30	10/19/13 12:34		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**724**	mg/L	20.0	200		10/15/13 14:55	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**70500**	mg/L	10000	1000		10/17/13 14:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Sample: TRIP BLANK **Lab ID: 60155410002** Collected: 10/14/13 08:00 Received: 10/14/13 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/19/13 10:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/19/13 10:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/19/13 10:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/19/13 10:43	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/19/13 10:43	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/19/13 10:43	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/19/13 10:43	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/19/13 10:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/19/13 10:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 10:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 10:43	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/19/13 10:43	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/19/13 10:43	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/19/13 10:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/19/13 10:43	127-18-4	
Toluene	ND	ug/L	1.0	1		10/19/13 10:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/19/13 10:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/19/13 10:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/19/13 10:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/19/13 10:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/19/13 10:43	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		10/19/13 10:43	460-00-4	
Toluene-d8 (S)	104	%	80-120	1		10/19/13 10:43	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		10/19/13 10:43	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/19/13 10:43		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MERP/7824 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155410001

METHOD BLANK: 1272003 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/15/13 12:32	

LABORATORY CONTROL SAMPLE: 1272004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272005 1272006

Parameter	Units	60155408001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.37	5	5	0.51	0.63	3	5	70-130	21	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MERP/7823
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155410001

METHOD BLANK: 1271999 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/15/13 12:08	

LABORATORY CONTROL SAMPLE: 1272000

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.5	110	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272001 1272002

Parameter	Units	60155222001 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	0.30	0.24	6	5	70-130	23	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MPRP/24756
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155410001

METHOD BLANK: 1272877 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/18/13 16:14	
Antimony	ug/L	ND	10.0	10/18/13 16:14	
Arsenic	ug/L	ND	10.0	10/18/13 16:14	
Beryllium	ug/L	ND	1.0	10/18/13 16:14	
Cadmium	ug/L	ND	5.0	10/18/13 16:14	
Chromium	ug/L	ND	5.0	10/18/13 16:14	
Cobalt	ug/L	ND	5.0	10/18/13 16:14	
Copper	ug/L	ND	10.0	10/18/13 16:14	
Iron	ug/L	ND	50.0	10/18/13 16:14	
Lead	ug/L	ND	5.0	10/18/13 16:14	
Nickel	ug/L	ND	5.0	10/18/13 16:14	
Selenium	ug/L	ND	15.0	10/18/13 16:14	
Silver	ug/L	ND	7.0	10/18/13 16:14	
Thallium	ug/L	ND	20.0	10/18/13 16:14	
Zinc	ug/L	ND	50.0	10/18/13 16:14	

LABORATORY CONTROL SAMPLE: 1272878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9900	99	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	976	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	988	99	85-115	
Chromium	ug/L	1000	988	99	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	977	98	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lead	ug/L	1000	982	98	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	483	97	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	986	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	393	10000	10000	10900	11200	105	108	70-130	3	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272879 1272880

Parameter	Units	60155359001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1040	1030	104	103	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	1040	1060	104	106	70-130	2	7	
Cadmium	ug/L	0.013 mg/L	1000	1000	1030	1020	102	101	70-130	1	10	
Chromium	ug/L	0.21 mg/L	1000	1000	1210	1190	100	98	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper	ug/L	0.031 mg/L	1000	1000	1060	1050	103	102	70-130	1	11	
Iron	ug/L	1410	10000	10000	11600	11900	102	105	70-130	2	10	
Lead	ug/L	0.064 mg/L	1000	1000	1070	1060	100	99	70-130	1	10	
Nickel	ug/L	1.6 mg/L	1000	1000	2550	2540	96	94	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1010	103	101	70-130	2	10	
Silver	ug/L	ND	500	500	504	498	101	99	70-130	1	10	
Thallium	ug/L	ND	1000	1000	993	980	99	98	70-130	1	6	
Zinc	ug/L	0.19 mg/L	1000	1000	1170	1160	98	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MPRP/24736
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155410001

METHOD BLANK: 1271854 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/17/13 12:28	
Antimony, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Arsenic, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Beryllium, Dissolved	ug/L	ND	1.0	10/17/13 12:28	
Cadmium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Chromium, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Cobalt, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Copper, Dissolved	ug/L	ND	10.0	10/17/13 12:28	
Iron, Dissolved	ug/L	ND	50.0	10/17/13 12:28	
Lead, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Nickel, Dissolved	ug/L	ND	5.0	10/17/13 12:28	
Selenium, Dissolved	ug/L	ND	15.0	10/17/13 12:28	
Silver, Dissolved	ug/L	ND	7.0	10/17/13 12:28	
Thallium, Dissolved	ug/L	ND	20.0	10/17/13 12:28	
Zinc, Dissolved	ug/L	ND	50.0	10/17/13 12:28	

LABORATORY CONTROL SAMPLE: 1271855

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	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	969	97	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	985	98	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	995	100	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	999	100	85-115	
Silver, Dissolved	ug/L	500	480	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 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	3730	10000	10000	13700	12700	100	90	70-130	8	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1271856 1271857

Parameter	Units	60155222001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	916	845	84	77	70-130	8	7	R1
Arsenic, Dissolved	ug/L	690	1000	1000	1730	1620	104	93	70-130	6	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	901	808	90	81	70-130	11	7	R1
Cadmium, Dissolved	ug/L	ND	1000	1000	975	881	98	88	70-130	10	10	
Chromium, Dissolved	ug/L	257	1000	1000	1150	1070	89	82	70-130	7	10	
Cobalt, Dissolved	ug/L	37.4	1000	1000	905	821	87	78	70-130	10	6	R1
Copper, Dissolved	ug/L	ND	1000	1000	975	880	97	88	70-130	10	11	
Iron, Dissolved	ug/L	686000	10000	10000	680000	718000	-58	322	70-130	5	10	M1
Lead, Dissolved	ug/L	66.6	1000	1000	867	779	80	71	70-130	11	10	R1
Nickel, Dissolved	ug/L	88.4	1000	1000	952	866	86	78	70-130	9	10	
Selenium, Dissolved	ug/L	ND	1000	1000	973	923	97	92	70-130	5	10	
Silver, Dissolved	ug/L	ND	500	500	17.6	16.4	4	3	70-130	7	10	M1
Thallium, Dissolved	ug/L	ND	1000	1000	735	696	74	70	70-130	5	6	
Zinc, Dissolved	ug/L	12000	1000	1000	12900	13200	98	123	70-130	2	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MSV/57076
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155410001, 60155410002

METHOD BLANK: 1274441
Matrix: Water
Associated Lab Samples: 60155410001, 60155410002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,2-Dichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/19/13 10:13	
Benzene	ug/L	ND	1.0	10/19/13 10:13	
Bromodichloromethane	ug/L	ND	1.0	10/19/13 10:13	
Bromoform	ug/L	ND	1.0	10/19/13 10:13	
Bromomethane	ug/L	ND	5.0	10/19/13 10:13	
Carbon tetrachloride	ug/L	ND	1.0	10/19/13 10:13	
Chloroethane	ug/L	ND	1.0	10/19/13 10:13	
Chloroform	ug/L	ND	1.0	10/19/13 10:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Ethylbenzene	ug/L	ND	1.0	10/19/13 10:13	
Methylene chloride	ug/L	ND	1.0	10/19/13 10:13	
Tetrachloroethene	ug/L	ND	1.0	10/19/13 10:13	
Toluene	ug/L	ND	1.0	10/19/13 10:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Trichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Vinyl chloride	ug/L	ND	1.0	10/19/13 10:13	
Xylene (Total)	ug/L	ND	3.0	10/19/13 10:13	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/19/13 10:13	
4-Bromofluorobenzene (S)	%	97	80-120	10/19/13 10:13	
Toluene-d8 (S)	%	106	80-120	10/19/13 10:13	

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	92	59-138	
1,1,2-Trichloroethane	ug/L	20	18.4	92	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	18.9	95	73-129	
Bromodichloromethane	ug/L	20	19.0	95	63-129	
Bromoform	ug/L	20	17.7	88	52-123	
Bromomethane	ug/L	20	9.7	48	10-160	
Carbon tetrachloride	ug/L	20	19.9	100	70-140	
Chloroethane	ug/L	20	13.8	69	42-160	
Chloroform	ug/L	20	20.2	101	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.4	97	66-133	
Methylene chloride	ug/L	20	19.0	95	56-135	
Tetrachloroethene	ug/L	20	19.5	97	64-143	
Toluene	ug/L	20	20.2	101	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.8	99	71-130	
Vinyl chloride	ug/L	20	12.2	61	41-160	
Xylene (Total)	ug/L	60	57.4	96	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1274444

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3640	91	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3270	80	18-147	
Benzene	ug/L	ND	4000	3600	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3420	86	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1500	38	10-160	
Carbon tetrachloride	ug/L	ND	4000	3780	95	70-140	
Chloroethane	ug/L	ND	4000	2360	59	14-160	
Chloroform	ug/L	ND	4000	3600	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3510	88	19-160	
Ethylbenzene	ug/L	ND	4000	3420	85	37-154	
Methylene chloride	ug/L	ND	4000	3260	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3530	88	64-148	
Toluene	ug/L	ND	4000	3760	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3380	85	54-156	
Trichloroethene	ug/L	ND	4000	3540	88	71-157	
Vinyl chloride	ug/L	ND	4000	2130	53	10-160	
Xylene (Total)	ug/L	ND	12000	10300	86	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				104	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: OEXT/41016 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155410001

METHOD BLANK: 1273429 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/17/13 08:40	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/17/13 08:40	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/17/13 08:40	
Hexachloroethane	ug/L	ND	5.0	10/17/13 08:40	
Naphthalene	ug/L	ND	5.0	10/17/13 08:40	
Nitrobenzene	ug/L	ND	5.0	10/17/13 08:40	
Pentachlorophenol	ug/L	ND	5.0	10/17/13 08:40	
Phenol	ug/L	ND	5.0	10/17/13 08:40	
2,4,6-Tribromophenol (S)	%	110	39-120	10/17/13 08:40	
2-Fluorobiphenyl (S)	%	98	39-120	10/17/13 08:40	
2-Fluorophenol (S)	%	53	17-120	10/17/13 08:40	
Nitrobenzene-d5 (S)	%	93	33-120	10/17/13 08:40	
Phenol-d6 (S)	%	35	11-120	10/17/13 08:40	
Terphenyl-d14 (S)	%	109	45-120	10/17/13 08:40	

LABORATORY CONTROL SAMPLE: 1273430

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.6	87	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.2	88	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	53.6	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	45.0	90	44-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	24-120	
Hexachloroethane	ug/L	50	36.7	73	43-113	
Naphthalene	ug/L	50	44.7	89	48-120	
Nitrobenzene	ug/L	50	43.7	87	48-120	
Pentachlorophenol	ug/L	50	50.4	101	47-120	
Phenol	ug/L	50	18.1	36	16-112	
2,4,6-Tribromophenol (S)	%			100	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			84	33-120	
Phenol-d6 (S)	%			30	11-120	
Terphenyl-d14 (S)	%			98	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

MATRIX SPIKE SAMPLE: 1273431

Parameter	Units	60155346001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3690	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4360	87	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4080J	82	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3700	74	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	694J	7	11-120	M1
Hexachloroethane	ug/L	ND	5000	2730	55	40-113	
Naphthalene	ug/L	ND	5000	4030	76	45-120	
Nitrobenzene	ug/L	ND	5000	3620	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4450	89	43-135	
Phenol	ug/L	10900	5000	12200	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				78	39-120	
2-Fluorophenol (S)	%				46	17-120	
Nitrobenzene-d5 (S)	%				105	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				89	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WET/44008
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155410001

METHOD BLANK: 1271796 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/15/13 07:31	

LABORATORY CONTROL SAMPLE: 1271797

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.5	91	78-114	

MATRIX SPIKE SAMPLE: 1271801

Parameter	Units	60155102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	5.7	40	38.9	83	78-114	

SAMPLE DUPLICATE: 1271803

Parameter	Units	60155132004 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	4.8J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WET/44024 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155410001

METHOD BLANK: 1272351 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/15/13 14:05	

LABORATORY CONTROL SAMPLE: 1272352

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1272469

Parameter	Units	60155023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	10.8	39	64-132	M1

SAMPLE DUPLICATE: 1272470

Parameter	Units	60155222001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.6J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WET/44066 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155410001

METHOD BLANK: 1273529 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/17/13 12:58	

SAMPLE DUPLICATE: 1273530

Parameter	Units	60155244002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	18.0	22.0	20	25	

SAMPLE DUPLICATE: 1273531

Parameter	Units	60155320001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5.0	8.0	46	25	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WET/44026
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155410001

SAMPLE DUPLICATE: 1272382

Parameter	Units	60155408001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.2	6.2	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WET/44004 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155410001

METHOD BLANK: 1271710 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/19/13 12:10	

LABORATORY CONTROL SAMPLE: 1271711

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1271712

Parameter	Units	60155405003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	1350	1370	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WETA/26671 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155410001

METHOD BLANK: 1271927 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/15/13 14:47	

LABORATORY CONTROL SAMPLE: 1271928

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

MATRIX SPIKE SAMPLE: 1271929

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	774	400	1110	84	90-110	M1

SAMPLE DUPLICATE: 1271930

Parameter	Units	60155410001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	724	726	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: WETA/26708 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155410001

METHOD BLANK: 1273095 Matrix: Water
Associated Lab Samples: 60155410001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/17/13 14:27	

LABORATORY CONTROL SAMPLE: 1273096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1273097

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65400	50000	118000	105	90-110	

MATRIX SPIKE SAMPLE: 1273098

Parameter	Units	60155409001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	62600	50000	117000	108	90-110	

MATRIX SPIKE SAMPLE: 1273099

Parameter	Units	60155410001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70500	50000	119000	97	90-110	

MATRIX SPIKE SAMPLE: 1273100

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66800	50000	116000	97	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155410001	**316-104**	EPA 200.7	MPRP/24756	EPA 200.7	ICP/19222
60155410001	**316-104**	EPA 200.7	MPRP/24736	EPA 200.7	ICP/19206
60155410001	**316-104**	EPA 245.1	MERP/7824	EPA 245.1	MERC/7780
60155410001	**316-104**	EPA 245.1	MERP/7823	EPA 245.1	MERC/7779
60155410001	**316-104**	EPA 625	OEXT/41016	EPA 625	MSSV/13009
60155410001	**316-104**	EPA 624 Low	MSV/57076		
60155410002	**TRIP BLANK**	EPA 624 Low	MSV/57076		
60155410001	**316-104**	EPA 1664A	WET/44008		
60155410001	**316-104**	EPA 1664A	WET/44024		
60155410001	**316-104**	SM 2540D	WET/44066		
60155410001	**316-104**	SM 4500-H+B	WET/44026		
60155410001	**316-104**	SM 5210B	WET/44004	SM 5210B	WET/44131
60155410001	**316-104**	EPA 350.1	WETA/26671		
60155410001	**316-104**	EPA 410.4	WETA/26708		

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Sample Condition Upon Receipt

WO#:60155410

60155410

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Eng

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

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-112) / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.9 (circle one)

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DJS 10/14/13

Chain of Custody present:	☒Yes	☐No	☐N/A	1.
Chain of Custody filled out:	☒Yes	☐No	☐N/A	2.
Chain of Custody relinquished:	☒Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☒Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☒Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes	☐No	☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☒No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: water				13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	(BP3N) (BP3S) unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☒No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes	☐No		Initial when completed: DJS; Lot # of added preservative: 12510-1-3
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 060313-3				15.
Headspace in VOA vials (>6mm):	☒Yes	☒No	☐N/A	16. 5 of 5 vials w/ headspace 316-104 LEACHATE ONLY
Project sampled in USDA Regulated Area:	☐Yes	☐No	☒N/A	17. List State: — ADD QUALIFIER

Client Notification/ Resolution: Copy COC to Client? Y / (N) Field Data Required? Y / N — BASED ON HISTORICAL INST.

Person Contacted: ______ Date/Time: ______

Comments/ Resolution: ______

Project Manager Review: [signature] Date: 10/15/13

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

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:

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

Section B — Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C — Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

60155410

5(DG9H) 2(AG4U) 1(BP3S) 2(AG1H) 2(BP2U) 1(BP3N) 1(BP5N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-104	OT	G	10/14/13	0800				14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X		LOG samples as OQS 001
2	TRIP BLANK								2	2																X					2(DG9H) 002
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor	10-14-13	0935	Bill Stone	10-14-13	0935	
SITE ADDRESS: BRIDGETON LF							
13570 ST. CHARLES ROCK RD							
BRIDGETON MO 63044							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/14/13

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 23, 2013

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

RE: Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 16, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155501001	**316-105**	Water	10/15/13 08:35	10/16/13 02:30
60155501002	**TRIP BLANK**	Water	10/15/13 08:35	10/16/13 02:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155501001	**316-105**	EPA 200.7	SMW, TJT	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155501002	**TRIP BLANK**	EPA 624 Low	JKL	25

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Sample: 316-105 **Lab ID: 60155501001** Collected: 10/15/13 08:35 Received: 10/16/13 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	**9400**	ug/L	150	2	10/16/13 11:00	10/18/13 21:31	7429-90-5	
Antimony	ND	ug/L	50.0	5	10/16/13 11:00	10/21/13 14:06	7440-36-0	
Arsenic	**775**	ug/L	20.0	2	10/16/13 11:00	10/18/13 21:31	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/16/13 11:00	10/18/13 21:31	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/16/13 11:00	10/21/13 14:06	7440-43-9	
Chromium	**316**	ug/L	25.0	5	10/16/13 11:00	10/21/13 14:06	7440-47-3	
Cobalt	**49.4**	ug/L	10.0	2	10/16/13 11:00	10/18/13 21:31	7440-48-4	
Copper	ND	ug/L	20.0	2	10/16/13 11:00	10/18/13 21:31	7440-50-8	
Iron	**1050000**	ug/L	250	5	10/16/13 11:00	10/21/13 14:06	7439-89-6	
Lead	**183**	ug/L	10.0	2	10/16/13 11:00	10/18/13 21:31	7439-92-1	
Nickel	**107**	ug/L	10.0	2	10/16/13 11:00	10/18/13 21:31	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/16/13 11:00	10/21/13 14:06	7782-49-2	
Silver	ND	ug/L	14.0	2	10/16/13 11:00	10/18/13 21:31	7440-22-4	
Thallium	ND	ug/L	100	5	10/16/13 11:00	10/21/13 14:06	7440-28-0	
Zinc	**13500**	ug/L	250	5	10/16/13 11:00	10/21/13 14:06	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4180**	ug/L	150	2	10/17/13 15:30	10/21/13 13:03	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/17/13 15:30	10/21/13 13:24	7440-36-0	D3
Arsenic, Dissolved	**690**	ug/L	20.0	2	10/17/13 15:30	10/21/13 13:03	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/17/13 15:30	10/21/13 13:07	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/17/13 15:30	10/21/13 13:03	7440-43-9	D3
Chromium, Dissolved	**259**	ug/L	25.0	5	10/17/13 15:30	10/21/13 13:07	7440-47-3	
Cobalt, Dissolved	**38.5**	ug/L	10.0	2	10/17/13 15:30	10/21/13 13:03	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/17/13 15:30	10/21/13 13:03	7440-50-8	
Iron, Dissolved	**774000**	ug/L	1000	20	10/17/13 15:30	10/21/13 13:24	7439-89-6	M1
Lead, Dissolved	**87.5**	ug/L	10.0	2	10/17/13 15:30	10/21/13 13:03	7439-92-1	
Nickel, Dissolved	**90.4**	ug/L	10.0	2	10/17/13 15:30	10/21/13 13:03	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/17/13 15:30	10/21/13 13:07	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/17/13 15:30	10/21/13 13:03	7440-22-4	M1,R1
Thallium, Dissolved	ND	ug/L	100	5	10/17/13 15:30	10/21/13 13:07	7440-28-0	
Zinc, Dissolved	**12200**	ug/L	1000	20	10/17/13 15:30	10/21/13 13:24	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**8.4**	ug/L	0.20	1	10/17/13 08:30	10/17/13 11:27	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	10/17/13 08:30	10/17/13 13:36	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/17/13 00:00	10/18/13 10:59	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Sample: 316-105 **Lab ID: 60155501001** Collected: 10/15/13 08:35 Received: 10/16/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	87-86-5	
Phenol	**8200**	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/17/13 00:00	10/18/13 10:59	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	101	%	33-120	2	10/17/13 00:00	10/18/13 10:59	4165-60-0	
2-Fluorobiphenyl (S)	73	%	39-120	2	10/17/13 00:00	10/18/13 10:59	321-60-8	
Terphenyl-d14 (S)	78	%	45-120	2	10/17/13 00:00	10/18/13 10:59	1718-51-0	
Phenol-d6 (S)	26	%	11-120	2	10/17/13 00:00	10/18/13 10:59	13127-88-3	
2-Fluorophenol (S)	37	%	17-120	2	10/17/13 00:00	10/18/13 10:59	367-12-4	
2,4,6-Tribromophenol (S)	86	%	39-120	2	10/17/13 00:00	10/18/13 10:59	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/19/13 10:59	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/19/13 10:59	75-27-4	
Bromoform	ND	ug/L	200	200		10/19/13 10:59	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/19/13 10:59	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/19/13 10:59	56-23-5	
Chloroethane	ND	ug/L	200	200		10/19/13 10:59	75-00-3	
Chloroform	ND	ug/L	200	200		10/19/13 10:59	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/19/13 10:59	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/19/13 10:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 10:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 10:59	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/19/13 10:59	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/19/13 10:59	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/19/13 10:59	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/19/13 10:59	127-18-4	
Toluene	ND	ug/L	200	200		10/19/13 10:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/19/13 10:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/19/13 10:59	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/19/13 10:59	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/19/13 10:59	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/19/13 10:59	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	200		10/19/13 10:59	460-00-4	D3,HS
Toluene-d8 (S)	106	%	80-120	200		10/19/13 10:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	113	%	80-120	200		10/19/13 10:59	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/19/13 10:59		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**342**	mg/L	5.0	1		10/17/13 08:52		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/18/13 07:41		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Sample: 316-105 **Lab ID: 60155501001** Collected: 10/15/13 08:35 Received: 10/16/13 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4560**	mg/L	5.0	1		10/18/13 12:40		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/16/13 14:36		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**34300**	mg/L	2.0	1	10/17/13 08:15	10/22/13 08:46		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**707**	mg/L	20.0	200		10/19/13 10:49	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**66800**	mg/L	10000	1000		10/17/13 14:30		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Sample: TRIP BLANK **Lab ID: 60155501002** Collected: 10/15/13 08:35 Received: 10/16/13 02:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/19/13 11:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/19/13 11:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/19/13 11:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/19/13 11:14	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/19/13 11:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/19/13 11:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/19/13 11:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/19/13 11:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/19/13 11:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 11:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 11:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/19/13 11:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/19/13 11:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/19/13 11:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/19/13 11:14	127-18-4	
Toluene	ND	ug/L	1.0	1		10/19/13 11:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/19/13 11:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/19/13 11:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/19/13 11:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/19/13 11:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/19/13 11:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		10/19/13 11:14	460-00-4	
Toluene-d8 (S)	107	%	80-120	1		10/19/13 11:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		10/19/13 11:14	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/19/13 11:14		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: MERP/7828
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155501001

METHOD BLANK: 1273523 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/17/13 11:23	

LABORATORY CONTROL SAMPLE: 1273524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1273525 1273526

Parameter	Units	60155572001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.1	4.0	82	79	70-130	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: MERP/7831
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155501001

METHOD BLANK: 1273543 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/17/13 13:27	

LABORATORY CONTROL SAMPLE: 1273544

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1273545 1273546

Parameter	Units	60155501001 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	0.36	0.33	7	7	70-130	6	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: MPRP/24757
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155501001

METHOD BLANK: 1272911 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/21/13 13:50	
Antimony	ug/L	ND	10.0	10/21/13 13:50	
Arsenic	ug/L	ND	10.0	10/21/13 13:50	
Beryllium	ug/L	ND	1.0	10/21/13 13:50	
Cadmium	ug/L	ND	5.0	10/21/13 13:50	
Chromium	ug/L	ND	5.0	10/21/13 13:50	
Cobalt	ug/L	ND	5.0	10/21/13 13:50	
Copper	ug/L	ND	10.0	10/21/13 13:50	
Iron	ug/L	ND	50.0	10/21/13 13:50	
Lead	ug/L	ND	5.0	10/21/13 13:50	
Nickel	ug/L	ND	5.0	10/21/13 13:50	
Selenium	ug/L	ND	15.0	10/21/13 13:50	
Silver	ug/L	ND	7.0	10/21/13 13:50	
Thallium	ug/L	ND	20.0	10/21/13 13:50	
Zinc	ug/L	ND	50.0	10/21/13 13:50	

LABORATORY CONTROL SAMPLE: 1272912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9350	93	85-115	
Antimony	ug/L	1000	951	95	85-115	
Arsenic	ug/L	1000	936	94	85-115	
Beryllium	ug/L	1000	947	95	85-115	
Cadmium	ug/L	1000	970	97	85-115	
Chromium	ug/L	1000	995	99	85-115	
Cobalt	ug/L	1000	957	96	85-115	
Copper	ug/L	1000	922	92	85-115	
Iron	ug/L	10000	9390	94	85-115	
Lead	ug/L	1000	984	98	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	931	93	85-115	
Silver	ug/L	500	484	97	85-115	
Thallium	ug/L	1000	991	99	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272913 1272914

Parameter	Units	60155403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	9000	9310	90	93	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1272913 1272914

Parameter	Units	60155403001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	922	943	92	94	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	940	956	93	95	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	904	936	90	94	70-130	3	7	
Cadmium	ug/L	ND	1000	1000	945	967	94	97	70-130	2	10	
Chromium	ug/L	0.016 mg/L	1000	1000	943	974	93	96	70-130	3	10	
Cobalt	ug/L	ND	1000	1000	889	916	89	92	70-130	3	6	
Copper	ug/L	ND	1000	1000	913	940	90	93	70-130	3	11	
Iron	ug/L	4510	10000	10000	13400	13600	89	91	70-130	2	10	
Lead	ug/L	ND	1000	1000	878	910	88	91	70-130	4	10	
Nickel	ug/L	0.015 mg/L	1000	1000	925	954	91	94	70-130	3	10	
Selenium	ug/L	ND	1000	1000	918	940	92	94	70-130	2	10	
Silver	ug/L	ND	500	500	464	479	93	96	70-130	3	10	
Thallium	ug/L	ND	1000	1000	831	860	83	86	70-130	3	6	
Zinc	ug/L	0.63 mg/L	1000	1000	1570	1590	94	96	70-130	1	11	

MATRIX SPIKE SAMPLE: 1272915

Parameter	Units	60155403002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9490	95	70-130	
Antimony	ug/L	ND	1000	969	97	70-130	
Arsenic	ug/L	ND	1000	991	99	70-130	
Beryllium	ug/L	ND	1000	956	96	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	0.012 mg/L	1000	998	99	70-130	
Cobalt	ug/L	ND	1000	934	93	70-130	
Copper	ug/L	ND	1000	958	95	70-130	
Iron	ug/L	2360	10000	11600	93	70-130	
Lead	ug/L	ND	1000	930	93	70-130	
Nickel	ug/L	0.010 mg/L	1000	969	96	70-130	
Selenium	ug/L	ND	1000	968	97	70-130	
Silver	ug/L	ND	500	494	99	70-130	
Thallium	ug/L	ND	1000	884	88	70-130	
Zinc	ug/L	0.43 mg/L	1000	1440	101	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: MPRP/24779
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155501001

METHOD BLANK: 1273962 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/21/13 12:57	
Antimony, Dissolved	ug/L	ND	10.0	10/21/13 12:57	
Arsenic, Dissolved	ug/L	ND	10.0	10/21/13 12:57	
Beryllium, Dissolved	ug/L	ND	1.0	10/21/13 12:57	
Cadmium, Dissolved	ug/L	ND	5.0	10/21/13 12:57	
Chromium, Dissolved	ug/L	ND	5.0	10/21/13 12:57	
Cobalt, Dissolved	ug/L	ND	5.0	10/21/13 12:57	
Copper, Dissolved	ug/L	ND	10.0	10/21/13 12:57	
Iron, Dissolved	ug/L	ND	50.0	10/21/13 12:57	
Lead, Dissolved	ug/L	ND	5.0	10/21/13 12:57	
Nickel, Dissolved	ug/L	ND	5.0	10/21/13 12:57	
Selenium, Dissolved	ug/L	ND	15.0	10/21/13 12:57	
Silver, Dissolved	ug/L	ND	7.0	10/21/13 12:57	
Thallium, Dissolved	ug/L	ND	20.0	10/21/13 12:57	
Zinc, Dissolved	ug/L	ND	50.0	10/21/13 12:57	

LABORATORY CONTROL SAMPLE: 1273963

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	986	99	85-115	
Beryllium, Dissolved	ug/L	1000	1010	101	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	979	98	85-115	
Cobalt, Dissolved	ug/L	1000	994	99	85-115	
Copper, Dissolved	ug/L	1000	956	96	85-115	
Iron, Dissolved	ug/L	10000	9260	93	85-115	
Lead, Dissolved	ug/L	1000	974	97	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	1040	104	85-115	
Silver, Dissolved	ug/L	500	482	96	85-115	
Thallium, Dissolved	ug/L	1000	963	96	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1273964 1273965

Parameter	Units	60155501001 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	4180	10000	10000	14600	13900	104	97	70-130	5	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1273964 1273965

Parameter	Units	60155501001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	935	94	87	70-130	7	7	
Arsenic, Dissolved	ug/L	690	1000	1000	1780	1690	109	100	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	954	927	95	93	70-130	3	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1000	103	100	70-130	3	10	
Chromium, Dissolved	ug/L	259	1000	1000	1180	1140	92	88	70-130	4	10	
Cobalt, Dissolved	ug/L	38.5	1000	1000	954	930	92	89	70-130	3	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1000	103	100	70-130	3	11	
Iron, Dissolved	ug/L	774000	10000	10000	782000	706000	82	-676	70-130	10	10	M1
Lead, Dissolved	ug/L	87.5	1000	1000	926	904	84	82	70-130	2	10	
Nickel, Dissolved	ug/L	90.4	1000	1000	1000	975	91	88	70-130	3	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1100	1080	110	108	70-130	2	10	
Silver, Dissolved	ug/L	ND	500	500	15.5	20.8	3	4	70-130	29	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	852	840	85	84	70-130	1	6	
Zinc, Dissolved	ug/L	12200	1000	1000	13200	11800	95	-42	70-130	11	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: MSV/57076
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155501001, 60155501002

METHOD BLANK: 1274441 Matrix: Water
Associated Lab Samples: 60155501001, 60155501002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,2-Dichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/19/13 10:13	
Benzene	ug/L	ND	1.0	10/19/13 10:13	
Bromodichloromethane	ug/L	ND	1.0	10/19/13 10:13	
Bromoform	ug/L	ND	1.0	10/19/13 10:13	
Bromomethane	ug/L	ND	5.0	10/19/13 10:13	
Carbon tetrachloride	ug/L	ND	1.0	10/19/13 10:13	
Chloroethane	ug/L	ND	1.0	10/19/13 10:13	
Chloroform	ug/L	ND	1.0	10/19/13 10:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Ethylbenzene	ug/L	ND	1.0	10/19/13 10:13	
Methylene chloride	ug/L	ND	1.0	10/19/13 10:13	
Tetrachloroethene	ug/L	ND	1.0	10/19/13 10:13	
Toluene	ug/L	ND	1.0	10/19/13 10:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Trichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Vinyl chloride	ug/L	ND	1.0	10/19/13 10:13	
Xylene (Total)	ug/L	ND	3.0	10/19/13 10:13	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/19/13 10:13	
4-Bromofluorobenzene (S)	%	97	80-120	10/19/13 10:13	
Toluene-d8 (S)	%	106	80-120	10/19/13 10:13	

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	92	59-138	
1,1,2-Trichloroethane	ug/L	20	18.4	92	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	18.9	95	73-129	
Bromodichloromethane	ug/L	20	19.0	95	63-129	
Bromoform	ug/L	20	17.7	88	52-123	
Bromomethane	ug/L	20	9.7	48	10-160	
Carbon tetrachloride	ug/L	20	19.9	100	70-140	
Chloroethane	ug/L	20	13.8	69	42-160	
Chloroform	ug/L	20	20.2	101	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	104	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.4	97	66-133	
Methylene chloride	ug/L	20	19.0	95	56-135	
Tetrachloroethene	ug/L	20	19.5	97	64-143	
Toluene	ug/L	20	20.2	101	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.8	99	71-130	
Vinyl chloride	ug/L	20	12.2	61	41-160	
Xylene (Total)	ug/L	60	57.4	96	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1274444

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3640	91	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3270	80	18-147	
Benzene	ug/L	ND	4000	3600	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3420	86	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1500	38	10-160	
Carbon tetrachloride	ug/L	ND	4000	3780	95	70-140	
Chloroethane	ug/L	ND	4000	2360	59	14-160	
Chloroform	ug/L	ND	4000	3600	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3510	88	19-160	
Ethylbenzene	ug/L	ND	4000	3420	85	37-154	
Methylene chloride	ug/L	ND	4000	3260	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3530	88	64-148	
Toluene	ug/L	ND	4000	3760	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3380	85	54-156	
Trichloroethene	ug/L	ND	4000	3540	88	71-157	
Vinyl chloride	ug/L	ND	4000	2130	53	10-160	
Xylene (Total)	ug/L	ND	12000	10300	86	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				104	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: OEXT/41023 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155501001

METHOD BLANK: 1273478 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/18/13 09:57	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/18/13 09:57	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/18/13 09:57	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/18/13 09:57	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/18/13 09:57	
Hexachloroethane	ug/L	ND	5.0	10/18/13 09:57	
Naphthalene	ug/L	ND	5.0	10/18/13 09:57	
Nitrobenzene	ug/L	ND	5.0	10/18/13 09:57	
Pentachlorophenol	ug/L	ND	5.0	10/18/13 09:57	
Phenol	ug/L	ND	5.0	10/18/13 09:57	
2,4,6-Tribromophenol (S)	%	84	39-120	10/18/13 09:57	
2-Fluorobiphenyl (S)	%	79	39-120	10/18/13 09:57	
2-Fluorophenol (S)	%	41	17-120	10/18/13 09:57	
Nitrobenzene-d5 (S)	%	74	33-120	10/18/13 09:57	
Phenol-d6 (S)	%	27	11-120	10/18/13 09:57	
Terphenyl-d14 (S)	%	82	45-120	10/18/13 09:57	

LABORATORY CONTROL SAMPLE: 1273479

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.0	84	46-120	
2,4,6-Trichlorophenol	ug/L	50	45.0	90	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	52.5	105	40-133	
Hexachloro-1,3-butadiene	ug/L	50	43.7	87	44-116	
Hexachlorocyclopentadiene	ug/L	100	77.5	77	24-120	
Hexachloroethane	ug/L	50	36.0	72	43-113	
Naphthalene	ug/L	50	43.4	87	48-120	
Nitrobenzene	ug/L	50	42.2	84	48-120	
Pentachlorophenol	ug/L	50	46.6	93	47-120	
Phenol	ug/L	50	15.2	30	16-112	
2,4,6-Tribromophenol (S)	%			99	39-120	
2-Fluorobiphenyl (S)	%			88	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			95	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

MATRIX SPIKE SAMPLE: 1273480

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3850	77	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4780	96	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	5100	102	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3990	80	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	7130	71	11-120	
Hexachloroethane	ug/L	ND	5000	3580	72	40-113	
Naphthalene	ug/L	ND	5000	4480	85	45-120	
Nitrobenzene	ug/L	ND	5000	4190	84	38-120	
Pentachlorophenol	ug/L	ND	5000	5180	104	43-135	
Phenol	ug/L	8200	5000	12300	81	13-112	
2,4,6-Tribromophenol (S)	%				99	39-120	
2-Fluorobiphenyl (S)	%				88	39-120	
2-Fluorophenol (S)	%				45	17-120	
Nitrobenzene-d5 (S)	%				115	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				94	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WET/44067 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155501001

METHOD BLANK: 1273590 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/17/13 08:51	

LABORATORY CONTROL SAMPLE: 1273591

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: 1273594

Parameter	Units	60155350001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	315	40.8	346	77	78-114	M1

SAMPLE DUPLICATE: 1273593

Parameter	Units	60155496001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	6.0		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WET/44083 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155501001

METHOD BLANK: 1274114 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/18/13 07:38	

LABORATORY CONTROL SAMPLE: 1274115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1274120

Parameter	Units	60155550009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	17.6	81	64-132	

SAMPLE DUPLICATE: 1274119

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.2		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WET/44085 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155501001

METHOD BLANK: 1274173 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/18/13 12:33	

SAMPLE DUPLICATE: 1274174

Parameter	Units	60155430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	25.0	18	25	

SAMPLE DUPLICATE: 1274175

Parameter	Units	60155439001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WET/44057
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155501001

SAMPLE DUPLICATE: 1273226

Parameter	Units	60155470001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.4	7.4	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WET/44062
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155501001

METHOD BLANK: 1273467 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/22/13 08:32	

LABORATORY CONTROL SAMPLE: 1273468

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

SAMPLE DUPLICATE: 1273469

Parameter	Units	60155501001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	34300	34400	0	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WETA/26744
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155501001

METHOD BLANK: 1275092 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/19/13 10:44	

LABORATORY CONTROL SAMPLE: 1275093

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

MATRIX SPIKE SAMPLE: 1275094

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	707	400	1030	80	90-110	M1

SAMPLE DUPLICATE: 1275095

Parameter	Units	60155721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	750	737	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

QC Batch: WETA/26708 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155501001

METHOD BLANK: 1273095 Matrix: Water
Associated Lab Samples: 60155501001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/17/13 14:27	

LABORATORY CONTROL SAMPLE: 1273096

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.3	97	90-110	

MATRIX SPIKE SAMPLE: 1273097

Parameter	Units	60155408001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65400	50000	118000	105	90-110	

MATRIX SPIKE SAMPLE: 1273098

Parameter	Units	60155409001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	62600	50000	117000	108	90-110	

MATRIX SPIKE SAMPLE: 1273099

Parameter	Units	60155410001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	70500	50000	119000	97	90-110	

MATRIX SPIKE SAMPLE: 1273100

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66800	50000	116000	97	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-105
Pace Project No.: 60155501

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155501001	**316-105**	EPA 200.7	MPRP/24757	EPA 200.7	ICP/19229
60155501001	**316-105**	EPA 200.7	MPRP/24779	EPA 200.7	ICP/19235
60155501001	**316-105**	EPA 245.1	MERP/7828	EPA 245.1	MERC/7785
60155501001	**316-105**	EPA 245.1	MERP/7831	EPA 245.1	MERC/7788
60155501001	**316-105**	EPA 625	OEXT/41023	EPA 625	MSSV/13022
60155501001	**316-105**	EPA 624 Low	MSV/57076		
60155501002	**TRIP BLANK**	EPA 624 Low	MSV/57076		
60155501001	**316-105**	EPA 1664A	WET/44067		
60155501001	**316-105**	EPA 1664A	WET/44083		
60155501001	**316-105**	SM 2540D	WET/44085		
60155501001	**316-105**	SM 4500-H+B	WET/44057		
60155501001	**316-105**	SM 5210B	WET/44062	SM 5210B	WET/44152
60155501001	**316-105**	EPA 350.1	WETA/26744		
60155501001	**316-105**	EPA 410.4	WETA/26708		

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Sample Condition Upon Receipt

WO# : 60155501

60155501

Client Name: BARR

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

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 ☒ Wipe

Thermometer Used: T-112 / T-194 Type of Ice: (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: S 10/16

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add HNO3 to BP3N 316-105 5.0/35 Add H2SO4 to BP3S 316-105 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 S / Lot # of added preservative 12510 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct 7		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	4 of 4 VOA - (316-105)
		16. FOOTNOTE BASED ON HISTORICAL INSTRUCTIONS
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/16/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	60155501
1	316-105 2(BP2U) BP3U, BP3N 5.0	OT	G	10/15/13	0835	BP3S 5.0	2(AG1H)		14	9/4	1	1	2	2(AG4U)					X	X	X	X	X	X	X	X	X	X	X	4(DG9U)	LOG samples as OQS ay
2	TRIP BLANK 2(DG9U) TB								2	2																X					ar
3																															
4																															
5																															
6																															METALS LIST total & LF Dis:
7																															Al,Sb,As,Be,Cd,Cr,
8																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																															and Mercury
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Paul Wroath / FEI	10-15-13	2:25 PM	Samantha Hawth	10-15-13	2:25 PM				
SITE ADDRESS: BRIDGETON LF				Shadda McK / PSI	10/16	0230	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] **DATE Signed:** 10-15-13

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October 24, 2013

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

RE: Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155621001	**316-106**	Water	10/16/13 10:15	10/17/13 01:40
60155621002	**TRIP BLANK**	Water	10/16/13 10:15	10/17/13 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155621001	**316-106**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	JMC1	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155621002	**TRIP BLANK**	EPA 624 Low	JKL	25

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PROJECT NARRATIVE

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Date: October 24, 2013

BOD NARRATIVE

The amount of oxygen depletion observed in some nutrient dilution water blanks was such that they failed to meet our laboratory acceptance criteria. This creates a potential high bias in the analytical results for BOD in the associated samples. Therefore, the associated analytical results for BOD have been qualified as estimated. Corrective action has been taken, and further analytical results obtained from the nutrient dilution water blanks are being closely monitored to ensure this is an isolated incident.

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Sample: 316-106 **Lab ID: 60155621001** Collected: 10/16/13 10:15 Received: 10/17/13 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	**7530**	ug/L	150	2	10/22/13 11:15	10/22/13 18:42	7429-90-5	
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 18:55	7440-36-0	D3
Arsenic	**903**	ug/L	20.0	2	10/22/13 11:15	10/22/13 18:42	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 18:42	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/22/13 11:15	10/22/13 18:42	7440-43-9	
Chromium	**349**	ug/L	25.0	5	10/22/13 11:15	10/22/13 18:52	7440-47-3	
Cobalt	**50.8**	ug/L	10.0	2	10/22/13 11:15	10/22/13 18:42	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 18:52	7440-50-8	D3
Iron	**1010000**	ug/L	1000	20	10/22/13 11:15	10/22/13 18:55	7439-89-6	M1
Lead	**179**	ug/L	10.0	2	10/22/13 11:15	10/22/13 18:42	7439-92-1	
Nickel	**119**	ug/L	10.0	2	10/22/13 11:15	10/22/13 18:42	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 18:52	7782-49-2	
Silver	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 18:52	7440-22-4	M1,R1
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 18:52	7440-28-0	
Zinc	**14900**	ug/L	1000	20	10/22/13 11:15	10/22/13 18:55	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4750**	ug/L	150	2	10/22/13 11:15	10/23/13 18:28	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 21:03	7440-36-0	D3
Arsenic, Dissolved	**798**	ug/L	20.0	2	10/22/13 11:15	10/22/13 20:56	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/23/13 18:28	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:00	7440-43-9	D3
Chromium, Dissolved	**296**	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:00	7440-47-3	
Cobalt, Dissolved	**40.7**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:56	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 21:00	7440-50-8	
Iron, Dissolved	**820000**	ug/L	1000	20	10/22/13 11:15	10/23/13 18:32	7439-89-6	M1
Lead, Dissolved	**103**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:56	7439-92-1	
Nickel, Dissolved	**101**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:56	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 21:00	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 21:00	7440-22-4	M1
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 21:00	7440-28-0	
Zinc, Dissolved	**13600**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:03	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.74**	ug/L	0.20	1	10/18/13 09:15	10/18/13 13:56	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	10/22/13 09:00	10/22/13 13:11	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/21/13 00:00	10/22/13 10:53	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Sample: 316-106 **Lab ID: 60155621001** Collected: 10/16/13 10:15 Received: 10/17/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	87-86-5	
Phenol	**10100**	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 10:53	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	94	%	33-120	2	10/21/13 00:00	10/22/13 10:53	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	2	10/21/13 00:00	10/22/13 10:53	321-60-8	
Terphenyl-d14 (S)	75	%	45-120	2	10/21/13 00:00	10/22/13 10:53	1718-51-0	
Phenol-d6 (S)	29	%	11-120	2	10/21/13 00:00	10/22/13 10:53	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	10/21/13 00:00	10/22/13 10:53	367-12-4	
2,4,6-Tribromophenol (S)	75	%	39-120	2	10/21/13 00:00	10/22/13 10:53	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/19/13 13:31	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/19/13 13:31	75-27-4	
Bromoform	ND	ug/L	200	200		10/19/13 13:31	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/19/13 13:31	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/19/13 13:31	56-23-5	
Chloroethane	ND	ug/L	200	200		10/19/13 13:31	75-00-3	
Chloroform	ND	ug/L	200	200		10/19/13 13:31	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/19/13 13:31	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/19/13 13:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 13:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 13:31	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/19/13 13:31	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/19/13 13:31	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/19/13 13:31	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/19/13 13:31	127-18-4	
Toluene	ND	ug/L	200	200		10/19/13 13:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/19/13 13:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/19/13 13:31	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/19/13 13:31	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/19/13 13:31	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/19/13 13:31	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	200		10/19/13 13:31	460-00-4	D3
Toluene-d8 (S)	104	%	80-120	200		10/19/13 13:31	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	200		10/19/13 13:31	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/19/13 13:31		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**594**	mg/L	5.0	1		10/18/13 07:31		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/18/13 07:41		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Sample: 316-106 **Lab ID: 60155621001** Collected: 10/16/13 10:15 Received: 10/17/13 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4380**	mg/L	5.0	1		10/21/13 10:56		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/19/13 08:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**23200**	mg/L	2.0	1	10/17/13 14:21	10/22/13 15:26		1e,D6,L0
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**695**	mg/L	20.0	200		10/19/13 10:51	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**75600**	mg/L	10000	1000		10/23/13 15:56		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

Sample: TRIP BLANK **Lab ID: 60155621002** Collected: 10/16/13 10:15 Received: 10/17/13 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/19/13 14:02	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/19/13 14:02	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/19/13 14:02	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/19/13 14:02	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/19/13 14:02	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/19/13 14:02	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/19/13 14:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/19/13 14:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/19/13 14:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 14:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 14:02	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/19/13 14:02	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/19/13 14:02	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/19/13 14:02	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/19/13 14:02	127-18-4	
Toluene	ND	ug/L	1.0	1		10/19/13 14:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/19/13 14:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/19/13 14:02	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/19/13 14:02	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/19/13 14:02	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/19/13 14:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	96	%	80-120	1		10/19/13 14:02	460-00-4	
Toluene-d8 (S)	105	%	80-120	1		10/19/13 14:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	1		10/19/13 14:02	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/19/13 14:02		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MERP/7835
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155621001

METHOD BLANK: 1274267 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/18/13 13:52	

LABORATORY CONTROL SAMPLE: 1274268

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1274269 1274270

Parameter	Units	60155694001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.9	4.9	98	97	70-130	1	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155621001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155621001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155621001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MSV/57076
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155621001, 60155621002

METHOD BLANK: 1274441
Matrix: Water
Associated Lab Samples: 60155621001, 60155621002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,2-Dichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/19/13 10:13	
Benzene	ug/L	ND	1.0	10/19/13 10:13	
Bromodichloromethane	ug/L	ND	1.0	10/19/13 10:13	
Bromoform	ug/L	ND	1.0	10/19/13 10:13	
Bromomethane	ug/L	ND	5.0	10/19/13 10:13	
Carbon tetrachloride	ug/L	ND	1.0	10/19/13 10:13	
Chloroethane	ug/L	ND	1.0	10/19/13 10:13	
Chloroform	ug/L	ND	1.0	10/19/13 10:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Ethylbenzene	ug/L	ND	1.0	10/19/13 10:13	
Methylene chloride	ug/L	ND	1.0	10/19/13 10:13	
Tetrachloroethene	ug/L	ND	1.0	10/19/13 10:13	
Toluene	ug/L	ND	1.0	10/19/13 10:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Trichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Vinyl chloride	ug/L	ND	1.0	10/19/13 10:13	
Xylene (Total)	ug/L	ND	3.0	10/19/13 10:13	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/19/13 10:13	
4-Bromofluorobenzene (S)	%	97	80-120	10/19/13 10:13	
Toluene-d8 (S)	%	106	80-120	10/19/13 10:13	

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	92	59-138	
1,1,2-Trichloroethane	ug/L	20	18.4	92	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	18.9	95	73-129	
Bromodichloromethane	ug/L	20	19.0	95	63-129	
Bromoform	ug/L	20	17.7	88	52-123	
Bromomethane	ug/L	20	9.7	48	10-160	
Carbon tetrachloride	ug/L	20	19.9	100	70-140	
Chloroethane	ug/L	20	13.8	69	42-160	
Chloroform	ug/L	20	20.2	101	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.4	97	66-133	
Methylene chloride	ug/L	20	19.0	95	56-135	
Tetrachloroethene	ug/L	20	19.5	97	64-143	
Toluene	ug/L	20	20.2	101	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.8	99	71-130	
Vinyl chloride	ug/L	20	12.2	61	41-160	
Xylene (Total)	ug/L	60	57.4	96	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1274444

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3640	91	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3270	80	18-147	
Benzene	ug/L	ND	4000	3600	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3420	86	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1500	38	10-160	
Carbon tetrachloride	ug/L	ND	4000	3780	95	70-140	
Chloroethane	ug/L	ND	4000	2360	59	14-160	
Chloroform	ug/L	ND	4000	3600	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3510	88	19-160	
Ethylbenzene	ug/L	ND	4000	3420	85	37-154	
Methylene chloride	ug/L	ND	4000	3260	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3530	88	64-148	
Toluene	ug/L	ND	4000	3760	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3380	85	54-156	
Trichloroethene	ug/L	ND	4000	3540	88	71-157	
Vinyl chloride	ug/L	ND	4000	2130	53	10-160	
Xylene (Total)	ug/L	ND	12000	10300	86	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				104	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: OEXT/41087 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155621001

METHOD BLANK: 1275636 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/22/13 09:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/22/13 09:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/22/13 09:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/22/13 09:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/22/13 09:51	
Hexachloroethane	ug/L	ND	5.0	10/22/13 09:51	
Naphthalene	ug/L	ND	5.0	10/22/13 09:51	
Nitrobenzene	ug/L	ND	5.0	10/22/13 09:51	
Pentachlorophenol	ug/L	ND	5.0	10/22/13 09:51	
Phenol	ug/L	ND	5.0	10/22/13 09:51	
2,4,6-Tribromophenol (S)	%	79	39-120	10/22/13 09:51	
2-Fluorobiphenyl (S)	%	81	39-120	10/22/13 09:51	
2-Fluorophenol (S)	%	48	17-120	10/22/13 09:51	
Nitrobenzene-d5 (S)	%	78	33-120	10/22/13 09:51	
Phenol-d6 (S)	%	32	11-120	10/22/13 09:51	
Terphenyl-d14 (S)	%	93	45-120	10/22/13 09:51	

LABORATORY CONTROL SAMPLE: 1275637

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.6	81	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.4	85	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	40-133	
Hexachloro-1,3-butadiene	ug/L	50	40.6	81	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.7	70	24-120	
Hexachloroethane	ug/L	50	36.5	73	43-113	
Naphthalene	ug/L	50	42.6	85	48-120	
Nitrobenzene	ug/L	50	41.6	83	48-120	
Pentachlorophenol	ug/L	50	43.5	87	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			90	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			46	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			31	11-120	
Terphenyl-d14 (S)	%			96	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

MATRIX SPIKE SAMPLE: 1275638

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3120	62	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3530	71	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3710J	74	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3120	62	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4920	49	11-120	
Hexachloroethane	ug/L	ND	5000	3010	60	40-113	
Naphthalene	ug/L	ND	5000	3490	66	45-120	
Nitrobenzene	ug/L	ND	5000	3250	65	38-120	
Pentachlorophenol	ug/L	ND	5000	3510	70	43-135	
Phenol	ug/L	10100	5000	10400	5	13-112	M1
2,4,6-Tribromophenol (S)	%				74	39-120	
2-Fluorobiphenyl (S)	%				68	39-120	
2-Fluorophenol (S)	%				40	17-120	
Nitrobenzene-d5 (S)	%				90	33-120	
Phenol-d6 (S)	%				29	11-120	
Terphenyl-d14 (S)	%				77	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WET/44082 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155621001

METHOD BLANK: 1274109 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/18/13 07:31	

LABORATORY CONTROL SAMPLE: 1274110

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.2	98	78-114	

MATRIX SPIKE SAMPLE: 1274113

Parameter	Units	60155439001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	41.7	98	78-114	

SAMPLE DUPLICATE: 1274112

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	591	0	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WET/44083 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155621001

METHOD BLANK: 1274114 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/18/13 07:38	

LABORATORY CONTROL SAMPLE: 1274115

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.3	102	64-132	

MATRIX SPIKE SAMPLE: 1274120

Parameter	Units	60155550009 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	17.6	81	64-132	

SAMPLE DUPLICATE: 1274119

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.2		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WET/44124 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155621001

METHOD BLANK: 1275535 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/21/13 10:54	

SAMPLE DUPLICATE: 1275537

Parameter	Units	60155576010 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	39.0	40.0	3	25	

SAMPLE DUPLICATE: 1275538

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4380	4500	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WET/44108
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155621001

SAMPLE DUPLICATE: 1275097

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WET/44073 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155621001

METHOD BLANK: 1273750 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	4.4	2.0	10/22/13 15:12	

LABORATORY CONTROL SAMPLE: 1273751

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	134	68	85-115	L0

SAMPLE DUPLICATE: 1273752

Parameter	Units	60155621001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	23200	34500	39	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WETA/26744
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155621001

METHOD BLANK: 1275092 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/19/13 10:44	

LABORATORY CONTROL SAMPLE: 1275093

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

MATRIX SPIKE SAMPLE: 1275094

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	707	400	1030	80	90-110	M1

SAMPLE DUPLICATE: 1275095

Parameter	Units	60155721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	750	737	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155621001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155621001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

1e	Data is estimated due to nutrient blank contamination.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
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 LF 316-106
Pace Project No.: 60155621

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155621001	**316-106**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155621001	**316-106**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155621001	**316-106**	EPA 245.1	MERP/7835	EPA 245.1	MERC/7792
60155621001	**316-106**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155621001	**316-106**	EPA 625	OEXT/41087	EPA 625	MSSV/13042
60155621001	**316-106**	EPA 624 Low	MSV/57076		
60155621002	**TRIP BLANK**	EPA 624 Low	MSV/57076		
60155621001	**316-106**	EPA 1664A	WET/44082		
60155621001	**316-106**	EPA 1664A	WET/44083		
60155621001	**316-106**	SM 2540D	WET/44124		
60155621001	**316-106**	SM 4500-H+B	WET/44108		
60155621001	**316-106**	SM 5210B	WET/44073	SM 5210B	WET/44173
60155621001	**316-106**	EPA 350.1	WETA/26744		
60155621001	**316-106**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO# : 60155621

60155621

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 ☒ Ziplock

Thermometer Used: (T-112) T-194 Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.1

Date and initials of person examining contents: _____

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: WW		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add hno3 to BP3N 3160-106 5.0/4.0 Add h2so4 to BP3S 3160-106 5.0/4.0
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: JS Lot # of added preservative: 12510 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct. 07		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	16. 1@5 VOA (DG9W)
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: 10/18/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.:	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	
Missouri	

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	316-106 2(BP2LL) 2(AG1H)	OT	G	10/16/13	1015	2(AG4U)			14	10	1	1	2	BP3N 5.0		BP3S 5.0			X	X	X	X	X	X	X	X	X	X	X	X	BP3U, 5(DG9U)		LOG samples as OQS
2	TRIP BLANK 2(DG9U) TB								2	2																X						
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

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

Residual Chlorine (Y/N): Co155624

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	Julie CROAK / Feezor Engin.	10/16/13	1425	Danielle Hatch	10/16/13	1425
SITE ADDRESS: BRIDGETON LF				Shadella McKs / PST	10/17	0140
13570 ST. CHARLES ROCK RD						
BRIDGETON MO 63044						

SAMPLE CONDITIONS			
1.1	Y	N	Y

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	John Powell	
SIGNATURE of SAMPLER:		DATE Signed: 10-16-13

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

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

October 25, 2013

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

RE: Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 18, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155721001	**316-107**	Water	10/17/13 09:45	10/18/13 01:10
60155721002	**TRIP BLANK**	Water	10/17/13 09:45	10/18/13 01:10

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155721001	**316-107**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155721002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Sample: 316-107 **Lab ID: 60155721001** Collected: 10/17/13 09:45 Received: 10/18/13 01:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**8000**	ug/L	150	2	10/22/13 11:15	10/22/13 19:19	7429-90-5	
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 19:32	7440-36-0	D3
Arsenic	**934**	ug/L	20.0	2	10/22/13 11:15	10/22/13 19:19	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 19:19	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:23	7440-43-9	D3
Chromium	**360**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:23	7440-47-3	
Cobalt	**51.7**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:19	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 19:23	7440-50-8	
Iron	**1130000**	ug/L	1000	20	10/22/13 11:15	10/24/13 10:27	7439-89-6	
Lead	**193**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:23	7439-92-1	
Nickel	**112**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:19	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 19:23	7782-49-2	
Silver	**20.1**	ug/L	14.0	2	10/22/13 11:15	10/22/13 19:19	7440-22-4	
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 19:23	7440-28-0	
Zinc	**15200**	ug/L	1000	20	10/22/13 11:15	10/22/13 19:32	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4510**	ug/L	150	2	10/22/13 11:15	10/23/13 18:48	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 21:23	7440-36-0	D3
Arsenic, Dissolved	**791**	ug/L	20.0	2	10/22/13 11:15	10/22/13 21:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/23/13 18:48	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:20	7440-43-9	D3
Chromium, Dissolved	**308**	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:20	7440-47-3	
Cobalt, Dissolved	**39.9**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:16	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 21:20	7440-50-8	
Iron, Dissolved	**825000**	ug/L	1000	20	10/22/13 11:15	10/23/13 18:51	7439-89-6	
Lead, Dissolved	**98.6**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:16	7439-92-1	
Nickel, Dissolved	**93.0**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:16	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 21:20	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 21:20	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 21:20	7440-28-0	
Zinc, Dissolved	**13300**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:23	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.80**	ug/L	0.20	1	10/21/13 10:00	10/21/13 14:15	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	10/22/13 09:00	10/22/13 13:15	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/21/13 00:00	10/22/13 12:57	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Sample: 316-107 **Lab ID: 60155721001** Collected: 10/17/13 09:45 Received: 10/18/13 01:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	87-86-5	
Phenol	**11600**	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 12:57	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	105	%	33-120	2	10/21/13 00:00	10/22/13 12:57	4165-60-0	
2-Fluorobiphenyl (S)	77	%	39-120	2	10/21/13 00:00	10/22/13 12:57	321-60-8	
Terphenyl-d14 (S)	88	%	45-120	2	10/21/13 00:00	10/22/13 12:57	1718-51-0	
Phenol-d6 (S)	33	%	11-120	2	10/21/13 00:00	10/22/13 12:57	13127-88-3	
2-Fluorophenol (S)	47	%	17-120	2	10/21/13 00:00	10/22/13 12:57	367-12-4	
2,4,6-Tribromophenol (S)	86	%	39-120	2	10/21/13 00:00	10/22/13 12:57	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/19/13 14:17	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/19/13 14:17	75-27-4	
Bromoform	ND	ug/L	200	200		10/19/13 14:17	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/19/13 14:17	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/19/13 14:17	56-23-5	
Chloroethane	ND	ug/L	200	200		10/19/13 14:17	75-00-3	
Chloroform	ND	ug/L	200	200		10/19/13 14:17	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/19/13 14:17	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/19/13 14:17	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 14:17	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/19/13 14:17	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/19/13 14:17	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/19/13 14:17	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/19/13 14:17	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/19/13 14:17	127-18-4	
Toluene	ND	ug/L	200	200		10/19/13 14:17	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/19/13 14:17	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/19/13 14:17	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/19/13 14:17	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/19/13 14:17	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/19/13 14:17	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		10/19/13 14:17	460-00-4	D3
Toluene-d8 (S)	106	%	80-120	200		10/19/13 14:17	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		10/19/13 14:17	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/19/13 14:17		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**522**	mg/L	5.0	1		10/21/13 07:32		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/24/13 07:44		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Sample: 316-107 **Lab ID: 60155721001** Collected: 10/17/13 09:45 Received: 10/18/13 01:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4960**	mg/L	5.0	1		10/23/13 09:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/20/13 13:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**38000**	mg/L	2.0	1	10/18/13 15:24	10/23/13 13:17		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**750**	mg/L	20.0	200		10/19/13 10:52	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**81900**	mg/L	10000	1000		10/23/13 15:56		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Sample: TRIP BLANK **Lab ID: 60155721002** Collected: 10/17/13 09:45 Received: 10/18/13 01:10 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/19/13 14:32	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/19/13 14:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/19/13 14:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/19/13 14:32	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/19/13 14:32	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/19/13 14:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/19/13 14:32	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/19/13 14:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/19/13 14:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 14:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/19/13 14:32	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/19/13 14:32	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/19/13 14:32	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/19/13 14:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/19/13 14:32	127-18-4	
Toluene	ND	ug/L	1.0	1		10/19/13 14:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/19/13 14:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/19/13 14:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/19/13 14:32	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/19/13 14:32	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/19/13 14:32	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	1		10/19/13 14:32	460-00-4	
Toluene-d8 (S)	104	%	80-120	1		10/19/13 14:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		10/19/13 14:32	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/19/13 14:32		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: MERP/7838
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155721001

METHOD BLANK: 1275550 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/21/13 14:04	

LABORATORY CONTROL SAMPLE: 1275551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275552 1275553

Parameter	Units	60155496003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.7	4.7	94	94	70-130	0	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155721001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155721001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155721001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: MSV/57076 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155721001, 60155721002

METHOD BLANK: 1274441 Matrix: Water
Associated Lab Samples: 60155721001, 60155721002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,2-Dichloroethane	ug/L	ND	1.0	10/19/13 10:13	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/19/13 10:13	
Benzene	ug/L	ND	1.0	10/19/13 10:13	
Bromodichloromethane	ug/L	ND	1.0	10/19/13 10:13	
Bromoform	ug/L	ND	1.0	10/19/13 10:13	
Bromomethane	ug/L	ND	5.0	10/19/13 10:13	
Carbon tetrachloride	ug/L	ND	1.0	10/19/13 10:13	
Chloroethane	ug/L	ND	1.0	10/19/13 10:13	
Chloroform	ug/L	ND	1.0	10/19/13 10:13	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Ethylbenzene	ug/L	ND	1.0	10/19/13 10:13	
Methylene chloride	ug/L	ND	1.0	10/19/13 10:13	
Tetrachloroethene	ug/L	ND	1.0	10/19/13 10:13	
Toluene	ug/L	ND	1.0	10/19/13 10:13	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Trichloroethene	ug/L	ND	1.0	10/19/13 10:13	
Vinyl chloride	ug/L	ND	1.0	10/19/13 10:13	
Xylene (Total)	ug/L	ND	3.0	10/19/13 10:13	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/19/13 10:13	
4-Bromofluorobenzene (S)	%	97	80-120	10/19/13 10:13	
Toluene-d8 (S)	%	106	80-120	10/19/13 10:13	

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.3	92	59-138	
1,1,2-Trichloroethane	ug/L	20	18.4	92	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	18.8	94	68-124	
Benzene	ug/L	20	18.9	95	73-129	
Bromodichloromethane	ug/L	20	19.0	95	63-129	
Bromoform	ug/L	20	17.7	88	52-123	
Bromomethane	ug/L	20	9.7	48	10-160	
Carbon tetrachloride	ug/L	20	19.9	100	70-140	
Chloroethane	ug/L	20	13.8	69	42-160	
Chloroform	ug/L	20	20.2	101	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.7	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

LABORATORY CONTROL SAMPLE: 1274442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.4	97	66-133	
Methylene chloride	ug/L	20	19.0	95	56-135	
Tetrachloroethene	ug/L	20	19.5	97	64-143	
Toluene	ug/L	20	20.2	101	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.3	97	67-149	
Trichloroethene	ug/L	20	19.8	99	71-130	
Vinyl chloride	ug/L	20	12.2	61	41-160	
Xylene (Total)	ug/L	60	57.4	96	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			97	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1274444

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3640	91	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3570	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3560	89	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3270	80	18-147	
Benzene	ug/L	ND	4000	3600	88	37-151	
Bromodichloromethane	ug/L	ND	4000	3420	86	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1500	38	10-160	
Carbon tetrachloride	ug/L	ND	4000	3780	95	70-140	
Chloroethane	ug/L	ND	4000	2360	59	14-160	
Chloroform	ug/L	ND	4000	3600	90	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3510	88	19-160	
Ethylbenzene	ug/L	ND	4000	3420	85	37-154	
Methylene chloride	ug/L	ND	4000	3260	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3530	88	64-148	
Toluene	ug/L	ND	4000	3760	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3380	85	54-156	
Trichloroethene	ug/L	ND	4000	3540	88	71-157	
Vinyl chloride	ug/L	ND	4000	2130	53	10-160	
Xylene (Total)	ug/L	ND	12000	10300	86	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				104	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: OEXT/41077 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155721001

METHOD BLANK: 1275493 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/22/13 09:09	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/22/13 09:09	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/22/13 09:09	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/22/13 09:09	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/22/13 09:09	
Hexachloroethane	ug/L	ND	5.0	10/22/13 09:09	
Naphthalene	ug/L	ND	5.0	10/22/13 09:09	
Nitrobenzene	ug/L	ND	5.0	10/22/13 09:09	
Pentachlorophenol	ug/L	ND	5.0	10/22/13 09:09	
Phenol	ug/L	ND	5.0	10/22/13 09:09	
2,4,6-Tribromophenol (S)	%	79	39-120	10/22/13 09:09	
2-Fluorobiphenyl (S)	%	77	39-120	10/22/13 09:09	
2-Fluorophenol (S)	%	46	17-120	10/22/13 09:09	
Nitrobenzene-d5 (S)	%	74	33-120	10/22/13 09:09	
Phenol-d6 (S)	%	30	11-120	10/22/13 09:09	
Terphenyl-d14 (S)	%	92	45-120	10/22/13 09:09	

LABORATORY CONTROL SAMPLE: 1275494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.9	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	40.2	80	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	49.5	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.9	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	58.6	59	24-120	
Hexachloroethane	ug/L	50	31.5	63	43-113	
Naphthalene	ug/L	50	39.1	78	48-120	
Nitrobenzene	ug/L	50	39.7	79	48-120	
Pentachlorophenol	ug/L	50	42.5	85	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			80	39-120	
2-Fluorophenol (S)	%			45	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

MATRIX SPIKE SAMPLE: 1275495

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3120	62	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3900	78	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4290J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3070	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4570	46	11-120	
Hexachloroethane	ug/L	ND	5000	2920	58	40-113	
Naphthalene	ug/L	ND	5000	3640	68	45-120	
Nitrobenzene	ug/L	ND	5000	3520	70	38-120	
Pentachlorophenol	ug/L	ND	5000	4280	86	43-135	
Phenol	ug/L	11600	5000	12900	25	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				74	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				100	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				85	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WET/44115 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155721001

METHOD BLANK: 1275441 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/21/13 07:31	

LABORATORY CONTROL SAMPLE: 1275442

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: 1275446

Parameter	Units	60155706002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44	49.1	103	78-114	

SAMPLE DUPLICATE: 1275445

Parameter	Units	60155570001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	3J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WET/44191 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155721001

METHOD BLANK: 1277141 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/24/13 07:43	

LABORATORY CONTROL SAMPLE: 1277142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.7	104	64-132	

MATRIX SPIKE SAMPLE: 1277147

Parameter	Units	60155800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	24.9	105	64-132	

SAMPLE DUPLICATE: 1277146

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WET/44167
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155721001

METHOD BLANK: 1276579
Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/23/13 09:01	

SAMPLE DUPLICATE: 1276580

Parameter	Units	60155721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4960	4920	1	25	

SAMPLE DUPLICATE: 1276581

Parameter	Units	60155685001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1050	1090	4	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WET/44112
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155721001

SAMPLE DUPLICATE: 1275649

Parameter	Units	60155852004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	4.2	4.2	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WET/44098 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155721001

METHOD BLANK: 1274368 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/23/13 12:34	

LABORATORY CONTROL SAMPLE: 1274369

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

SAMPLE DUPLICATE: 1274370

Parameter	Units	60155721001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	38000	37500	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WETA/26744 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155721001

METHOD BLANK: 1275092 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/19/13 10:44	

LABORATORY CONTROL SAMPLE: 1275093

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

MATRIX SPIKE SAMPLE: 1275094

Parameter	Units	60155501001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	707	400	1030	80	90-110	M1

SAMPLE DUPLICATE: 1275095

Parameter	Units	60155721001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	750	737	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155721001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155721001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-107
Pace Project No.: 60155721

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155721001	**316-107**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155721001	**316-107**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155721001	**316-107**	EPA 245.1	MERP/7838	EPA 245.1	MERC/7795
60155721001	**316-107**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155721001	**316-107**	EPA 625	OEXT/41077	EPA 625	MSSV/13040
60155721001	**316-107**	EPA 624 Low	MSV/57076		
60155721002	**TRIP BLANK**	EPA 624 Low	MSV/57076		
60155721001	**316-107**	EPA 1664A	WET/44115		
60155721001	**316-107**	EPA 1664A	WET/44191		
60155721001	**316-107**	SM 2540D	WET/44167		
60155721001	**316-107**	SM 4500-H+B	WET/44112		
60155721001	**316-107**	SM 5210B	WET/44098	SM 5210B	WET/44182
60155721001	**316-107**	EPA 350.1	WETA/26744		
60155721001	**316-107**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO# : 60155721

60155721

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☑ 2 PLE

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/18/13 BA

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. 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: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	14. 6.0 pH for Nitric and Sulfuric container. added 2.0 Sulfuric and pH went to 3.0 added 2.5 Nitric and pH went to 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: BA Lot # of added preservative: HNO3 12510 H2SO4 12520
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. 2 of 5
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: 10/18/13

CHAIN-OF-CUSTODY / Analytical Request Document

Pace Analytical

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.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	State / Location
	Missouri

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

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

60155721

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other
1	316-107 2AG1H 2AG4U 2BP2U 1BP3U	OT	G	10/17/13	0945	1BP3N 5.6	1BP3S	3.6	14	10	1	1	2	~~3~~ 5	2AG4U		
2	TRIP BLANK								2	2			10/18/13		2AG4U		
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)	
1		X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS WI
2									X						WI
3															
4															
5															
6															METALS LIST total & LF Dis:
7															Al,Sb,As,Be,Cd,Cr,
8															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9															and Mercury
10															
11															
12															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Croak / Barr Eng.	10-17-13	1435	Kenneth Heath	~~1435~~ 10/17/13	1435				
SITE ADDRESS: BRIDGETON LF				Beuth Aft / PASI	10/17/13		2.3	Y	Y	Y
13570 ST. CHARLES ROCK RD					10/18/13	0110				
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-17-13

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

October 25, 2013

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

RE: Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 19, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155819001	**316-108**	Water	10/18/13 11:15	10/19/13 01:35
60155819002	**TRIP BLANK**	Water	10/18/13 11:15	10/19/13 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155819001	**316-108**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155819002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Sample: 316-108 **Lab ID: 60155819001** Collected: 10/18/13 11:15 Received: 10/19/13 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	**5910**	ug/L	375	5	10/22/13 11:15	10/23/13 14:19	7429-90-5	
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 19:43	7440-36-0	D3
Arsenic	**921**	ug/L	20.0	2	10/22/13 11:15	10/22/13 19:36	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/22/13 11:15	10/23/13 14:19	7440-41-7	
Cadmium	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:39	7440-43-9	D3
Chromium	**368**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:39	7440-47-3	
Cobalt	**52.7**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:36	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 19:39	7440-50-8	
Iron	**1130000**	ug/L	1000	20	10/22/13 11:15	10/24/13 10:30	7439-89-6	
Lead	**184**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:39	7439-92-1	
Nickel	**111**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:36	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 19:39	7782-49-2	
Silver	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 19:39	7440-22-4	
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 19:39	7440-28-0	
Zinc	**17100**	ug/L	1000	20	10/22/13 11:15	10/22/13 19:43	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4520**	ug/L	150	2	10/22/13 11:15	10/22/13 21:33	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 21:40	7440-36-0	D3
Arsenic, Dissolved	**736**	ug/L	20.0	2	10/22/13 11:15	10/22/13 21:33	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 21:33	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:36	7440-43-9	D3
Chromium, Dissolved	**296**	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:36	7440-47-3	
Cobalt, Dissolved	**39.0**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:33	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 21:36	7440-50-8	
Iron, Dissolved	**757000**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:40	7439-89-6	
Lead, Dissolved	**78.4**	ug/L	25.0	5	10/22/13 11:15	10/23/13 18:54	7439-92-1	
Nickel, Dissolved	**89.8**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:33	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 21:36	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 21:36	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 21:36	7440-28-0	
Zinc, Dissolved	**13900**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:40	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**4.6**	ug/L	0.20	1	10/21/13 10:00	10/21/13 14:20	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	10/22/13 09:00	10/22/13 13:22	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/21/13 00:00	10/22/13 13:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	98-95-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Sample: 316-108 **Lab ID: 60155819001** Collected: 10/18/13 11:15 Received: 10/19/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	87-86-5	
Phenol	**10600**	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/21/13 00:00	10/22/13 13:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	95	%	33-120	2	10/21/13 00:00	10/22/13 13:18	4165-60-0	
2-Fluorobiphenyl (S)	71	%	39-120	2	10/21/13 00:00	10/22/13 13:18	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	10/21/13 00:00	10/22/13 13:18	1718-51-0	
Phenol-d6 (S)	32	%	11-120	2	10/21/13 00:00	10/22/13 13:18	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	10/21/13 00:00	10/22/13 13:18	367-12-4	
2,4,6-Tribromophenol (S)	78	%	39-120	2	10/21/13 00:00	10/22/13 13:18	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/23/13 14:10	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/23/13 14:10	75-27-4	
Bromoform	ND	ug/L	200	200		10/23/13 14:10	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/23/13 14:10	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/23/13 14:10	56-23-5	
Chloroethane	ND	ug/L	200	200		10/23/13 14:10	75-00-3	
Chloroform	ND	ug/L	200	200		10/23/13 14:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/23/13 14:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/23/13 14:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 14:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 14:10	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/23/13 14:10	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/23/13 14:10	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/23/13 14:10	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/23/13 14:10	127-18-4	
Toluene	ND	ug/L	200	200		10/23/13 14:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/23/13 14:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/23/13 14:10	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/23/13 14:10	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/23/13 14:10	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/23/13 14:10	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	200		10/23/13 14:10	460-00-4	D3
Toluene-d8 (S)	111	%	80-120	200		10/23/13 14:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		10/23/13 14:10	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/23/13 14:10		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**442**	mg/L	5.0	1		10/21/13 07:33		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/24/13 07:45		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Sample: 316-108 **Lab ID: 60155819001** Collected: 10/18/13 11:15 Received: 10/19/13 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5260**	mg/L	5.0	1		10/23/13 09:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/20/13 13:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**32400**	mg/L	2.0	1	10/19/13 13:21	10/24/13 10:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**752**	mg/L	20.0	200		10/23/13 15:41	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**71200**	mg/L	10000	1000		10/23/13 15:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Sample: TRIP BLANK **Lab ID: 60155819002** Collected: 10/18/13 11:15 Received: 10/19/13 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/23/13 14:25	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/23/13 14:25	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/23/13 14:25	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/23/13 14:25	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/23/13 14:25	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/23/13 14:25	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/23/13 14:25	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/23/13 14:25	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/23/13 14:25	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 14:25	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 14:25	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/23/13 14:25	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/23/13 14:25	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/23/13 14:25	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/23/13 14:25	127-18-4	
Toluene	ND	ug/L	1.0	1		10/23/13 14:25	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/23/13 14:25	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/23/13 14:25	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/23/13 14:25	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/23/13 14:25	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/23/13 14:25	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	1		10/23/13 14:25	460-00-4	
Toluene-d8 (S)	114	%	80-120	1		10/23/13 14:25	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		10/23/13 14:25	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/23/13 14:25		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MERP/7838
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155819001

METHOD BLANK: 1275550 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/21/13 14:04	

LABORATORY CONTROL SAMPLE: 1275551

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275552 1275553

Parameter	Units	60155496003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.7	4.7	94	94	70-130	0	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155819001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155819001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155819001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MSV/57162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155819001, 60155819002

METHOD BLANK: 1276723 Matrix: Water
Associated Lab Samples: 60155819001, 60155819002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/23/13 12:24	
Benzene	ug/L	ND	1.0	10/23/13 12:24	
Bromodichloromethane	ug/L	ND	1.0	10/23/13 12:24	
Bromoform	ug/L	ND	1.0	10/23/13 12:24	
Bromomethane	ug/L	ND	5.0	10/23/13 12:24	
Carbon tetrachloride	ug/L	ND	1.0	10/23/13 12:24	
Chloroethane	ug/L	ND	1.0	10/23/13 12:24	
Chloroform	ug/L	ND	1.0	10/23/13 12:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Ethylbenzene	ug/L	ND	1.0	10/23/13 12:24	
Methylene chloride	ug/L	ND	1.0	10/23/13 12:24	
Tetrachloroethene	ug/L	ND	1.0	10/23/13 12:24	
Toluene	ug/L	ND	1.0	10/23/13 12:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Trichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Vinyl chloride	ug/L	ND	1.0	10/23/13 12:24	
Xylene (Total)	ug/L	ND	3.0	10/23/13 12:24	
1,2-Dichloroethane-d4 (S)	%	95	80-120	10/23/13 12:24	
4-Bromofluorobenzene (S)	%	92	80-120	10/23/13 12:24	
Toluene-d8 (S)	%	109	80-120	10/23/13 12:24	

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	59-138	
1,1,2-Trichloroethane	ug/L	20	17.7	89	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	17.6	88	68-124	
Benzene	ug/L	20	19.9	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	7.4	37	10-160	
Carbon tetrachloride	ug/L	20	20.7	104	70-140	
Chloroethane	ug/L	20	13.4	67	42-160	
Chloroform	ug/L	20	18.5	93	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.9	99	66-133	
Methylene chloride	ug/L	20	18.8	94	56-135	
Tetrachloroethene	ug/L	20	20.0	100	64-143	
Toluene	ug/L	20	21.1	105	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	12.3	61	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			90	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1276725

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3160	79	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3650	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3890	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3660	88	18-147	
Benzene	ug/L	ND	4000	4390	108	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1110	28	10-160	
Carbon tetrachloride	ug/L	ND	4000	4730	118	70-140	
Chloroethane	ug/L	ND	4000	2840	71	14-160	
Chloroform	ug/L	ND	4000	4010	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4270	107	19-160	
Ethylbenzene	ug/L	ND	4000	4060	102	37-154	
Methylene chloride	ug/L	ND	4000	3980	98	15-156	
Tetrachloroethene	ug/L	ND	4000	4300	107	64-148	
Toluene	ug/L	ND	4000	4610	115	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4330	108	54-156	
Trichloroethene	ug/L	ND	4000	4460	112	71-157	
Vinyl chloride	ug/L	ND	4000	2840	71	10-160	
Xylene (Total)	ug/L	ND	12000	11800	98	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				109	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: OEXT/41077 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60155819001

METHOD BLANK: 1275493 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/22/13 09:09	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/22/13 09:09	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/22/13 09:09	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/22/13 09:09	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/22/13 09:09	
Hexachloroethane	ug/L	ND	5.0	10/22/13 09:09	
Naphthalene	ug/L	ND	5.0	10/22/13 09:09	
Nitrobenzene	ug/L	ND	5.0	10/22/13 09:09	
Pentachlorophenol	ug/L	ND	5.0	10/22/13 09:09	
Phenol	ug/L	ND	5.0	10/22/13 09:09	
2,4,6-Tribromophenol (S)	%	79	39-120	10/22/13 09:09	
2-Fluorobiphenyl (S)	%	77	39-120	10/22/13 09:09	
2-Fluorophenol (S)	%	46	17-120	10/22/13 09:09	
Nitrobenzene-d5 (S)	%	74	33-120	10/22/13 09:09	
Phenol-d6 (S)	%	30	11-120	10/22/13 09:09	
Terphenyl-d14 (S)	%	92	45-120	10/22/13 09:09	

LABORATORY CONTROL SAMPLE: 1275494

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.9	74	46-120	
2,4,6-Trichlorophenol	ug/L	50	40.2	80	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	49.5	99	40-133	
Hexachloro-1,3-butadiene	ug/L	50	35.9	72	44-116	
Hexachlorocyclopentadiene	ug/L	100	58.6	59	24-120	
Hexachloroethane	ug/L	50	31.5	63	43-113	
Naphthalene	ug/L	50	39.1	78	48-120	
Nitrobenzene	ug/L	50	39.7	79	48-120	
Pentachlorophenol	ug/L	50	42.5	85	47-120	
Phenol	ug/L	50	17.7	35	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			80	39-120	
2-Fluorophenol (S)	%			45	17-120	
Nitrobenzene-d5 (S)	%			75	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

MATRIX SPIKE SAMPLE: 1275495

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3120	62	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3900	78	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4290J	86	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3070	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4570	46	11-120	
Hexachloroethane	ug/L	ND	5000	2920	58	40-113	
Naphthalene	ug/L	ND	5000	3640	68	45-120	
Nitrobenzene	ug/L	ND	5000	3520	70	38-120	
Pentachlorophenol	ug/L	ND	5000	4280	86	43-135	
Phenol	ug/L	11600	5000	12900	25	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				74	39-120	
2-Fluorophenol (S)	%				42	17-120	
Nitrobenzene-d5 (S)	%				100	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				85	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WET/44115
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155819001

METHOD BLANK: 1275441 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/21/13 07:31	

LABORATORY CONTROL SAMPLE: 1275442

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: 1275446

Parameter	Units	60155706002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	44	49.1	103	78-114	

SAMPLE DUPLICATE: 1275445

Parameter	Units	60155570001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	3J		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WET/44191 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155819001

METHOD BLANK: 1277141 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/24/13 07:43	

LABORATORY CONTROL SAMPLE: 1277142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.7	104	64-132	

MATRIX SPIKE SAMPLE: 1277147

Parameter	Units	60155800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	24.9	105	64-132	

SAMPLE DUPLICATE: 1277146

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WET/44168
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155819001

METHOD BLANK: 1276587 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/23/13 09:12	

SAMPLE DUPLICATE: 1276588

Parameter	Units	60155712005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	28.0	24.0	15	25	

SAMPLE DUPLICATE: 1276589

Parameter	Units	60155720002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	83.0	79.0	5	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WET/44112
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155819001

SAMPLE DUPLICATE: 1275649

Parameter	Units	60155852004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	4.2	4.2	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WET/44111 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155819001

METHOD BLANK: 1275388 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/24/13 10:24	

LABORATORY CONTROL SAMPLE: 1275389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	191	96	85-115	

SAMPLE DUPLICATE: 1275391

Parameter	Units	60155819001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	32400	32700	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WETA/26803 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155819001

METHOD BLANK: 1276829 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/23/13 15:39	

LABORATORY CONTROL SAMPLE: 1276830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1276831

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	752	400	1100	88	90-110	M1

SAMPLE DUPLICATE: 1276832

Parameter	Units	60155875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	709	693	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155819001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155819001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155819001	**316-108**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155819001	**316-108**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155819001	**316-108**	EPA 245.1	MERP/7838	EPA 245.1	MERC/7795
60155819001	**316-108**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155819001	**316-108**	EPA 625	OEXT/41077	EPA 625	MSSV/13040
60155819001	**316-108**	EPA 624 Low	MSV/57162		
60155819002	**TRIP BLANK**	EPA 624 Low	MSV/57162		
60155819001	**316-108**	EPA 1664A	WET/44115		
60155819001	**316-108**	EPA 1664A	WET/44191		
60155819001	**316-108**	SM 2540D	WET/44168		
60155819001	**316-108**	SM 4500-H+B	WET/44112		
60155819001	**316-108**	SM 5210B	WET/44111	SM 5210B	WET/44200
60155819001	**316-108**	EPA 350.1	WETA/26803		
60155819001	**316-108**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO# : 60155819

60155819

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-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JW 10/19

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
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 HNO3 pH ~6.0; added 2.5ml HNO3; final ~4.0 Initial H2SO4 pH ~6.0; added 2ml H2SO4; final ~3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: JW — Lot # of added preservative: 12510 HNO3, 12520 H2SO4
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	3 of 5 sample vials 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: DRS for (AKB) Date: 10-19-13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	60155819 2(AG1H) 2(AG4U) 2(BP2U) BP3N 4.0 BP3S 5.5 BP3U 5(DG9U)
1	316-108	OT	G	9/8/13	1115				14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS 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	Julie Crook / Feezor Engin.	10/18/13	1425	Bonyette Hearth	10/18/13	1425				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	10/19/13	0935	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: J Powell DATE Signed: 10-18-13

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

October 30, 2013

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

RE: Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155874001	**316-111**	Water	10/21/13 08:00	10/21/13 13:05
60155874002	**TRIP BLANK**	Water	10/21/13 08:00	10/21/13 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155874001	**316-111**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155874002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Sample: 316-111 **Lab ID: 60155874001** Collected: 10/21/13 08:00 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9260**	ug/L	375	5	10/22/13 11:15	10/23/13 14:23	7429-90-5	M1
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 19:53	7440-36-0	D3
Arsenic	**1130**	ug/L	20.0	2	10/22/13 11:15	10/22/13 19:46	7440-38-2	M1
Beryllium	ND	ug/L	5.0	5	10/22/13 11:15	10/23/13 14:23	7440-41-7	
Cadmium	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:50	7440-43-9	D3
Chromium	**401**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:50	7440-47-3	
Cobalt	**62.8**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:46	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 19:50	7440-50-8	
Iron	**1370000**	ug/L	1000	20	10/22/13 11:15	10/24/13 10:33	7439-89-6	M1
Lead	**273**	ug/L	25.0	5	10/22/13 11:15	10/22/13 19:50	7439-92-1	
Nickel	**129**	ug/L	10.0	2	10/22/13 11:15	10/22/13 19:46	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 19:50	7782-49-2	
Silver	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 19:50	7440-22-4	M1,R1
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 19:50	7440-28-0	
Zinc	**14800**	ug/L	1000	20	10/22/13 11:15	10/22/13 19:53	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4800**	ug/L	150	2	10/22/13 11:15	10/22/13 21:43	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 21:50	7440-36-0	D3
Arsenic, Dissolved	**940**	ug/L	20.0	2	10/22/13 11:15	10/22/13 21:43	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 21:43	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:43	7440-43-9	
Chromium, Dissolved	**296**	ug/L	25.0	5	10/22/13 11:15	10/22/13 21:46	7440-47-3	
Cobalt, Dissolved	**39.6**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:43	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 21:46	7440-50-8	D3
Iron, Dissolved	**757000**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:50	7439-89-6	M1
Lead, Dissolved	**86.4**	ug/L	25.0	5	10/22/13 11:15	10/23/13 18:58	7439-92-1	
Nickel, Dissolved	**94.3**	ug/L	10.0	2	10/22/13 11:15	10/22/13 21:43	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 21:46	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 21:46	7440-22-4	M1
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 21:46	7440-28-0	
Zinc, Dissolved	**12700**	ug/L	1000	20	10/22/13 11:15	10/22/13 21:50	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	10/22/13 09:00	10/22/13 12:47	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	10/22/13 09:00	10/22/13 13:24	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/22/13 00:00	10/23/13 09:58	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Sample: 316-111 **Lab ID: 60155874001** Collected: 10/21/13 08:00 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	87-86-5	
Phenol	**11200**	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 09:58	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	93	%	33-120	2	10/22/13 00:00	10/23/13 09:58	4165-60-0	
2-Fluorobiphenyl (S)	63	%	39-120	2	10/22/13 00:00	10/23/13 09:58	321-60-8	
Terphenyl-d14 (S)	70	%	45-120	2	10/22/13 00:00	10/23/13 09:58	1718-51-0	
Phenol-d6 (S)	29	%	11-120	2	10/22/13 00:00	10/23/13 09:58	13127-88-3	
2-Fluorophenol (S)	39	%	17-120	2	10/22/13 00:00	10/23/13 09:58	367-12-4	
2,4,6-Tribromophenol (S)	68	%	39-120	2	10/22/13 00:00	10/23/13 09:58	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/23/13 14:40	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/23/13 14:40	75-27-4	
Bromoform	ND	ug/L	200	200		10/23/13 14:40	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/23/13 14:40	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/23/13 14:40	56-23-5	
Chloroethane	ND	ug/L	200	200		10/23/13 14:40	75-00-3	
Chloroform	ND	ug/L	200	200		10/23/13 14:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/23/13 14:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/23/13 14:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 14:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 14:40	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/23/13 14:40	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/23/13 14:40	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/23/13 14:40	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/23/13 14:40	127-18-4	
Toluene	ND	ug/L	200	200		10/23/13 14:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/23/13 14:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/23/13 14:40	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/23/13 14:40	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/23/13 14:40	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/23/13 14:40	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	90	%	80-120	200		10/23/13 14:40	460-00-4	D3
Toluene-d8 (S)	109	%	80-120	200		10/23/13 14:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		10/23/13 14:40	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/23/13 14:40		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**747**	mg/L	5.0	1		10/22/13 07:04		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/24/13 07:46		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Sample: 316-111 **Lab ID: 60155874001** Collected: 10/21/13 08:00 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3860**	mg/L	5.0	1		10/24/13 12:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/22/13 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**26700**	mg/L	2.0	1	10/21/13 15:23	10/26/13 10:39		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**691**	mg/L	20.0	200		10/23/13 15:46	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**69200**	mg/L	10000	1000		10/23/13 15:56		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Sample: TRIP BLANK **Lab ID: 60155874002** Collected: 10/21/13 08:00 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/23/13 15:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/23/13 15:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/23/13 15:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/23/13 15:11	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/23/13 15:11	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/23/13 15:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/23/13 15:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/23/13 15:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/23/13 15:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 15:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 15:11	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/23/13 15:11	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/23/13 15:11	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/23/13 15:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/23/13 15:11	127-18-4	
Toluene	ND	ug/L	1.0	1		10/23/13 15:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/23/13 15:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/23/13 15:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/23/13 15:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/23/13 15:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/23/13 15:11	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	91	%	80-120	1		10/23/13 15:11	460-00-4	
Toluene-d8 (S)	111	%	80-120	1		10/23/13 15:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		10/23/13 15:11	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/23/13 15:11		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MERP/7844 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155874001

METHOD BLANK: 1275889 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/22/13 12:42	

LABORATORY CONTROL SAMPLE: 1275890

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: 1275891 1275892

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	0.29	0.34	5	6	70-130	17	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155874001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155874001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155874001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MSV/57162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155874001, 60155874002

METHOD BLANK: 1276723 Matrix: Water
Associated Lab Samples: 60155874001, 60155874002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/23/13 12:24	
Benzene	ug/L	ND	1.0	10/23/13 12:24	
Bromodichloromethane	ug/L	ND	1.0	10/23/13 12:24	
Bromoform	ug/L	ND	1.0	10/23/13 12:24	
Bromomethane	ug/L	ND	5.0	10/23/13 12:24	
Carbon tetrachloride	ug/L	ND	1.0	10/23/13 12:24	
Chloroethane	ug/L	ND	1.0	10/23/13 12:24	
Chloroform	ug/L	ND	1.0	10/23/13 12:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Ethylbenzene	ug/L	ND	1.0	10/23/13 12:24	
Methylene chloride	ug/L	ND	1.0	10/23/13 12:24	
Tetrachloroethene	ug/L	ND	1.0	10/23/13 12:24	
Toluene	ug/L	ND	1.0	10/23/13 12:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Trichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Vinyl chloride	ug/L	ND	1.0	10/23/13 12:24	
Xylene (Total)	ug/L	ND	3.0	10/23/13 12:24	
1,2-Dichloroethane-d4 (S)	%	95	80-120	10/23/13 12:24	
4-Bromofluorobenzene (S)	%	92	80-120	10/23/13 12:24	
Toluene-d8 (S)	%	109	80-120	10/23/13 12:24	

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	59-138	
1,1,2-Trichloroethane	ug/L	20	17.7	89	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	17.6	88	68-124	
Benzene	ug/L	20	19.9	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	7.4	37	10-160	
Carbon tetrachloride	ug/L	20	20.7	104	70-140	
Chloroethane	ug/L	20	13.4	67	42-160	
Chloroform	ug/L	20	18.5	93	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.9	99	66-133	
Methylene chloride	ug/L	20	18.8	94	56-135	
Tetrachloroethene	ug/L	20	20.0	100	64-143	
Toluene	ug/L	20	21.1	105	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	12.3	61	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			90	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1276725

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3160	79	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3650	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3890	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3660	88	18-147	
Benzene	ug/L	ND	4000	4390	108	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1110	28	10-160	
Carbon tetrachloride	ug/L	ND	4000	4730	118	70-140	
Chloroethane	ug/L	ND	4000	2840	71	14-160	
Chloroform	ug/L	ND	4000	4010	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4270	107	19-160	
Ethylbenzene	ug/L	ND	4000	4060	102	37-154	
Methylene chloride	ug/L	ND	4000	3980	98	15-156	
Tetrachloroethene	ug/L	ND	4000	4300	107	64-148	
Toluene	ug/L	ND	4000	4610	115	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4330	108	54-156	
Trichloroethene	ug/L	ND	4000	4460	112	71-157	
Vinyl chloride	ug/L	ND	4000	2840	71	10-160	
Xylene (Total)	ug/L	ND	12000	11800	98	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				109	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: OEXT/41098
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155874001

METHOD BLANK: 1275808
Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/23/13 08:56	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/23/13 08:56	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachloroethane	ug/L	ND	5.0	10/23/13 08:56	
Naphthalene	ug/L	ND	5.0	10/23/13 08:56	
Nitrobenzene	ug/L	ND	5.0	10/23/13 08:56	
Pentachlorophenol	ug/L	ND	5.0	10/23/13 08:56	
Phenol	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Tribromophenol (S)	%	82	39-120	10/23/13 08:56	
2-Fluorobiphenyl (S)	%	83	39-120	10/23/13 08:56	
2-Fluorophenol (S)	%	55	17-120	10/23/13 08:56	
Nitrobenzene-d5 (S)	%	80	33-120	10/23/13 08:56	
Phenol-d6 (S)	%	39	11-120	10/23/13 08:56	
Terphenyl-d14 (S)	%	89	45-120	10/23/13 08:56	

LABORATORY CONTROL SAMPLE: 1275809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.3	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.3	69	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	41.5	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.3	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	45.7	46	24-120	
Hexachloroethane	ug/L	50	28.6	57	43-113	
Naphthalene	ug/L	50	35.5	71	48-120	
Nitrobenzene	ug/L	50	36.3	73	48-120	
Pentachlorophenol	ug/L	50	34.8	70	47-120	
Phenol	ug/L	50	19.8	40	16-112	
2,4,6-Tribromophenol (S)	%			72	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			69	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

MATRIX SPIKE SAMPLE: 1275810

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3260	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3900	78	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4170J	83	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3140	63	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5030	50	11-120	
Hexachloroethane	ug/L	ND	5000	3040	61	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	3610	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4220	84	43-135	
Phenol	ug/L	11200	5000	17000	117	13-112	M1
2,4,6-Tribromophenol (S)	%				80	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				50	17-120	
Nitrobenzene-d5 (S)	%				114	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				79	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WET/44144 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155874001

METHOD BLANK: 1275791 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/22/13 07:02	

LABORATORY CONTROL SAMPLE: 1275792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.7	104	78-114	

MATRIX SPIKE SAMPLE: 1275796

Parameter	Units	60155777002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	2.3J	42.1	43.1	97	78-114	

SAMPLE DUPLICATE: 1275795

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	747	720	4	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WET/44191 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155874001

METHOD BLANK: 1277141 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/24/13 07:43	

LABORATORY CONTROL SAMPLE: 1277142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.7	104	64-132	

MATRIX SPIKE SAMPLE: 1277147

Parameter	Units	60155800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	24.9	105	64-132	

SAMPLE DUPLICATE: 1277146

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WET/44196 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155874001

METHOD BLANK: 1277285 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/24/13 12:27	

SAMPLE DUPLICATE: 1277286

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3860	3960	3	25	

SAMPLE DUPLICATE: 1277287

Parameter	Units	60155810003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	38.0	39.0	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WET/44141
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155874001

SAMPLE DUPLICATE: 1275779

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	1	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WET/44137 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155874001

METHOD BLANK: 1275688 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/26/13 09:53	

LABORATORY CONTROL SAMPLE: 1275689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1275690

Parameter	Units	60155876001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	23400	25200	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WETA/26803 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155874001

METHOD BLANK: 1276829 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/23/13 15:39	

LABORATORY CONTROL SAMPLE: 1276830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1276831

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	752	400	1100	88	90-110	M1

SAMPLE DUPLICATE: 1276832

Parameter	Units	60155875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	709	693	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155874001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155874001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MERC/7803

[1] A second MS was performed in lieu of an MSD due to limited volume

Batch: ICP/19254

[1] A second MS was performed in lieu of an MSD due to limited volume

ANALYTE QUALIFIERS

D3 Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.

H6 Analysis initiated outside of the 15 minute EPA recommended holding time.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

R1 RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155874001	**316-111**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155874001	**316-111**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155874001	**316-111**	EPA 245.1	MERP/7844	EPA 245.1	MERC/7802
60155874001	**316-111**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155874001	**316-111**	EPA 625	OEXT/41098	EPA 625	MSSV/13048
60155874001	**316-111**	EPA 624 Low	MSV/57162		
60155874002	**TRIP BLANK**	EPA 624 Low	MSV/57162		
60155874001	**316-111**	EPA 1664A	WET/44144		
60155874001	**316-111**	EPA 1664A	WET/44191		
60155874001	**316-111**	SM 2540D	WET/44196		
60155874001	**316-111**	SM 4500-H+B	WET/44141		
60155874001	**316-111**	SM 5210B	WET/44137	SM 5210B	WET/44245
60155874001	**316-111**	EPA 350.1	WETA/26803		
60155874001	**316-111**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO#: 60155874

60155874

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-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.7

Date and initials of person examining contents: BW 10/24/13

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	HNO_3 volume initial pH ~6.0; added 2.5 mL HNO_3; Final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H_2SO_4 volume initial pH ~6.0; added 2 mL H_2SO_4; Final pH ~3.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed BW Lot # of added preservative 12520/12510
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct 14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. Headspace in 5 of 5 sample vials (316-111) Only
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: FOOTNOTES BASED ON HISTORICAL INSTRUCTIONS

Project Manager Review: _____ Date: 10/22/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No. PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency:

State / Location: Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE	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)	60155474
1	316-111	OT	G	—		10/21/13	820		14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X		LOG samples as OQS
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																															

Handwritten container notes: 2(AG1H) 2(BG2U) 5(DG9U) 2(BP2U) 4P3S BP3N BP3U

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]	10-21-13	0900	Bill Stern 412	10-21-13	0900				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	10/21/13	1305	3.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 10/21/13

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

October 28, 2013

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

RE: Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

REPORT OF LABORATORY ANALYSIS

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

CERTIFICATIONS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

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

Pace Analytical Services, Inc.
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Lenexa, KS 66219
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155875001	**316-109**	Water	10/19/13 15:25	10/21/13 13:05
60155875002	**TRIP BLANK**	Water	10/19/13 15:25	10/21/13 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155875001	**316-109**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155875002	**TRIP BLANK**	EPA 624 Low	JKL	25

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Sample: 316-109 **Lab ID: 60155875001** Collected: 10/19/13 15:25 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6690**	ug/L	150	2	10/22/13 11:15	10/23/13 14:49	7429-90-5	
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 20:30	7440-36-0	D3
Arsenic	**937**	ug/L	20.0	2	10/22/13 11:15	10/22/13 20:23	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/22/13 11:15	10/23/13 14:49	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:27	7440-43-9	D3
Chromium	**348**	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:27	7440-47-3	
Cobalt	**53.0**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:23	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 20:27	7440-50-8	
Iron	**1080000**	ug/L	1000	20	10/22/13 11:15	10/24/13 10:42	7439-89-6	
Lead	**189**	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:27	7439-92-1	
Nickel	**114**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:23	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 20:27	7782-49-2	
Silver	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 20:27	7440-22-4	
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 20:27	7440-28-0	
Zinc	**16000**	ug/L	1000	20	10/22/13 11:15	10/22/13 20:30	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4900**	ug/L	150	2	10/22/13 11:15	10/22/13 22:03	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 22:16	7440-36-0	D3
Arsenic, Dissolved	**863**	ug/L	20.0	2	10/22/13 11:15	10/22/13 22:03	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 22:03	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:03	7440-43-9	
Chromium, Dissolved	**307**	ug/L	25.0	5	10/22/13 11:15	10/22/13 22:13	7440-47-3	
Cobalt, Dissolved	**41.9**	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:03	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 22:13	7440-50-8	D3
Iron, Dissolved	**765000**	ug/L	1000	20	10/22/13 11:15	10/22/13 22:16	7439-89-6	
Lead, Dissolved	**93.2**	ug/L	25.0	5	10/22/13 11:15	10/23/13 19:01	7439-92-1	
Nickel, Dissolved	**100**	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:03	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 22:13	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 22:13	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 22:13	7440-28-0	
Zinc, Dissolved	**15100**	ug/L	1000	20	10/22/13 11:15	10/22/13 22:16	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.69**	ug/L	0.20	1	10/22/13 09:00	10/22/13 12:58	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	10/22/13 09:00	10/22/13 13:29	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/22/13 00:00	10/23/13 10:19	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Sample: 316-109 **Lab ID: 60155875001** Collected: 10/19/13 15:25 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	87-86-5	
Phenol	**13400**	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:19	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	102	%	33-120	2	10/22/13 00:00	10/23/13 10:19	4165-60-0	
2-Fluorobiphenyl (S)	73	%	39-120	2	10/22/13 00:00	10/23/13 10:19	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	10/22/13 00:00	10/23/13 10:19	1718-51-0	
Phenol-d6 (S)	35	%	11-120	2	10/22/13 00:00	10/23/13 10:19	13127-88-3	
2-Fluorophenol (S)	48	%	17-120	2	10/22/13 00:00	10/23/13 10:19	367-12-4	
2,4,6-Tribromophenol (S)	78	%	39-120	2	10/22/13 00:00	10/23/13 10:19	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/23/13 15:26	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/23/13 15:26	75-27-4	
Bromoform	ND	ug/L	200	200		10/23/13 15:26	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/23/13 15:26	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/23/13 15:26	56-23-5	
Chloroethane	ND	ug/L	200	200		10/23/13 15:26	75-00-3	
Chloroform	ND	ug/L	200	200		10/23/13 15:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/23/13 15:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/23/13 15:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 15:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 15:26	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/23/13 15:26	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/23/13 15:26	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/23/13 15:26	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/23/13 15:26	127-18-4	
Toluene	ND	ug/L	200	200		10/23/13 15:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/23/13 15:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/23/13 15:26	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/23/13 15:26	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/23/13 15:26	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/23/13 15:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	92	%	80-120	200		10/23/13 15:26	460-00-4	D3,HS
Toluene-d8 (S)	111	%	80-120	200		10/23/13 15:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	200		10/23/13 15:26	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/23/13 15:26		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**657**	mg/L	5.0	1		10/22/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/24/13 07:47		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Sample: 316-109 **Lab ID: 60155875001** Collected: 10/19/13 15:25 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3800**	mg/L	5.0	1		10/24/13 12:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/22/13 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30500**	mg/L	2.0	1	10/21/13 15:06	10/26/13 10:09		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**709**	mg/L	20.0	200		10/23/13 15:47	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**73200**	mg/L	10000	1000		10/23/13 16:02		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Sample: TRIP BLANK **Lab ID: 60155875002** Collected: 10/19/13 15:25 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/23/13 15:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/23/13 15:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/23/13 15:41	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/23/13 15:41	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/23/13 15:41	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/23/13 15:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/23/13 15:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/23/13 15:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/23/13 15:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 15:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 15:41	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/23/13 15:41	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/23/13 15:41	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/23/13 15:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/23/13 15:41	127-18-4	
Toluene	ND	ug/L	1.0	1		10/23/13 15:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/23/13 15:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/23/13 15:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/23/13 15:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/23/13 15:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/23/13 15:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	92	%	80-120	1		10/23/13 15:41	460-00-4	
Toluene-d8 (S)	111	%	80-120	1		10/23/13 15:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		10/23/13 15:41	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/23/13 15:41		

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MERP/7844
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155875001

METHOD BLANK: 1275889 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/22/13 12:42	

LABORATORY CONTROL SAMPLE: 1275890

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: 1275891 1275892

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	0.29	0.34	5	6	70-130	17	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155875001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155875001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155875001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MSV/57162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155875001, 60155875002

METHOD BLANK: 1276723 Matrix: Water
Associated Lab Samples: 60155875001, 60155875002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/23/13 12:24	
Benzene	ug/L	ND	1.0	10/23/13 12:24	
Bromodichloromethane	ug/L	ND	1.0	10/23/13 12:24	
Bromoform	ug/L	ND	1.0	10/23/13 12:24	
Bromomethane	ug/L	ND	5.0	10/23/13 12:24	
Carbon tetrachloride	ug/L	ND	1.0	10/23/13 12:24	
Chloroethane	ug/L	ND	1.0	10/23/13 12:24	
Chloroform	ug/L	ND	1.0	10/23/13 12:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Ethylbenzene	ug/L	ND	1.0	10/23/13 12:24	
Methylene chloride	ug/L	ND	1.0	10/23/13 12:24	
Tetrachloroethene	ug/L	ND	1.0	10/23/13 12:24	
Toluene	ug/L	ND	1.0	10/23/13 12:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Trichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Vinyl chloride	ug/L	ND	1.0	10/23/13 12:24	
Xylene (Total)	ug/L	ND	3.0	10/23/13 12:24	
1,2-Dichloroethane-d4 (S)	%	95	80-120	10/23/13 12:24	
4-Bromofluorobenzene (S)	%	92	80-120	10/23/13 12:24	
Toluene-d8 (S)	%	109	80-120	10/23/13 12:24	

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	59-138	
1,1,2-Trichloroethane	ug/L	20	17.7	89	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	17.6	88	68-124	
Benzene	ug/L	20	19.9	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	7.4	37	10-160	
Carbon tetrachloride	ug/L	20	20.7	104	70-140	
Chloroethane	ug/L	20	13.4	67	42-160	
Chloroform	ug/L	20	18.5	93	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.9	99	66-133	
Methylene chloride	ug/L	20	18.8	94	56-135	
Tetrachloroethene	ug/L	20	20.0	100	64-143	
Toluene	ug/L	20	21.1	105	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	12.3	61	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			90	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1276725

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3160	79	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3650	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3890	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3660	88	18-147	
Benzene	ug/L	ND	4000	4390	108	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1110	28	10-160	
Carbon tetrachloride	ug/L	ND	4000	4730	118	70-140	
Chloroethane	ug/L	ND	4000	2840	71	14-160	
Chloroform	ug/L	ND	4000	4010	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4270	107	19-160	
Ethylbenzene	ug/L	ND	4000	4060	102	37-154	
Methylene chloride	ug/L	ND	4000	3980	98	15-156	
Tetrachloroethene	ug/L	ND	4000	4300	107	64-148	
Toluene	ug/L	ND	4000	4610	115	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4330	108	54-156	
Trichloroethene	ug/L	ND	4000	4460	112	71-157	
Vinyl chloride	ug/L	ND	4000	2840	71	10-160	
Xylene (Total)	ug/L	ND	12000	11800	98	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				109	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: OEXT/41098
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155875001

METHOD BLANK: 1275808
Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/23/13 08:56	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/23/13 08:56	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachloroethane	ug/L	ND	5.0	10/23/13 08:56	
Naphthalene	ug/L	ND	5.0	10/23/13 08:56	
Nitrobenzene	ug/L	ND	5.0	10/23/13 08:56	
Pentachlorophenol	ug/L	ND	5.0	10/23/13 08:56	
Phenol	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Tribromophenol (S)	%	82	39-120	10/23/13 08:56	
2-Fluorobiphenyl (S)	%	83	39-120	10/23/13 08:56	
2-Fluorophenol (S)	%	55	17-120	10/23/13 08:56	
Nitrobenzene-d5 (S)	%	80	33-120	10/23/13 08:56	
Phenol-d6 (S)	%	39	11-120	10/23/13 08:56	
Terphenyl-d14 (S)	%	89	45-120	10/23/13 08:56	

LABORATORY CONTROL SAMPLE: 1275809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.3	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.3	69	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	41.5	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.3	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	45.7	46	24-120	
Hexachloroethane	ug/L	50	28.6	57	43-113	
Naphthalene	ug/L	50	35.5	71	48-120	
Nitrobenzene	ug/L	50	36.3	73	48-120	
Pentachlorophenol	ug/L	50	34.8	70	47-120	
Phenol	ug/L	50	19.8	40	16-112	
2,4,6-Tribromophenol (S)	%			72	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			69	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

MATRIX SPIKE SAMPLE: 1275810

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3260	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3900	78	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4170J	83	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3140	63	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5030	50	11-120	
Hexachloroethane	ug/L	ND	5000	3040	61	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	3610	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4220	84	43-135	
Phenol	ug/L	11200	5000	17000	117	13-112	M1
2,4,6-Tribromophenol (S)	%				80	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				50	17-120	
Nitrobenzene-d5 (S)	%				114	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				79	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WET/44144 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155875001

METHOD BLANK: 1275791 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/22/13 07:02	

LABORATORY CONTROL SAMPLE: 1275792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.7	104	78-114	

MATRIX SPIKE SAMPLE: 1275796

Parameter	Units	60155777002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	2.3J	42.1	43.1	97	78-114	

SAMPLE DUPLICATE: 1275795

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	747	720	4	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WET/44191 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155875001

METHOD BLANK: 1277141 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/24/13 07:43	

LABORATORY CONTROL SAMPLE: 1277142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.7	104	64-132	

MATRIX SPIKE SAMPLE: 1277147

Parameter	Units	60155800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	24.9	105	64-132	

SAMPLE DUPLICATE: 1277146

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WET/44196
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155875001

METHOD BLANK: 1277285
Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/24/13 12:27	

SAMPLE DUPLICATE: 1277286

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3860	3960	3	25	

SAMPLE DUPLICATE: 1277287

Parameter	Units	60155810003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	38.0	39.0	3	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WET/44141
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155875001

SAMPLE DUPLICATE: 1275779

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	1	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WET/44137
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155875001

METHOD BLANK: 1275688 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/26/13 09:53	

LABORATORY CONTROL SAMPLE: 1275689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1275690

Parameter	Units	60155876001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	23400	25200	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WETA/26803 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155875001

METHOD BLANK: 1276829 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/23/13 15:39	

LABORATORY CONTROL SAMPLE: 1276830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1276831

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	752	400	1100	88	90-110	M1

SAMPLE DUPLICATE: 1276832

Parameter	Units	60155875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	709	693	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155875001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155875001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155875001	**316-109**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155875001	**316-109**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155875001	**316-109**	EPA 245.1	MERP/7844	EPA 245.1	MERC/7802
60155875001	**316-109**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155875001	**316-109**	EPA 625	OEXT/41098	EPA 625	MSSV/13048
60155875001	**316-109**	EPA 624 Low	MSV/57162		
60155875002	**TRIP BLANK**	EPA 624 Low	MSV/57162		
60155875001	**316-109**	EPA 1664A	WET/44144		
60155875001	**316-109**	EPA 1664A	WET/44191		
60155875001	**316-109**	SM 2540D	WET/44196		
60155875001	**316-109**	SM 4500-H+B	WET/44141		
60155875001	**316-109**	SM 5210B	WET/44137	SM 5210B	WET/44245
60155875001	**316-109**	EPA 350.1	WETA/26803		
60155875001	**316-109**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO#: 60155875

60155875

Client Name: Bard

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-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: LW 10/21/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	HNO_3 volume initial pH ~6.0; added 2.5 mL HNO_3; Final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H_2SO_4 volume initial pH ~6.0; added 2 mL H_2SO_4; Final pH ~3.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed LW Lot # of added preservative 12520/12510
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct 14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	Headspace in 5 of 5 sample vials (316-104 only) 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: FOOTNOTE H.S BASED ON HISTORICAL INSTRUCTIONS

Project Manager Review: _____ Date: 10/22/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

Section A **Required Client Information:**

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

Section B **Required Project Information:**

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number	

Section C **Invoice Information:**

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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)	60155845 2(AG1H) 2(AG2U) 5(DG9U) 2(BP2U) BP3S BP3N BP3U
1	316-109	OT	G	/		10/19/13	1525		14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS (W)
2	TRIP BLANK								2	2																X						2(DG9U) AR
3																																
4																																
5																																
6																																METALS LIST total & LF Dis:
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature]	10-21-13	0900	Bill Stone 412	10-21-13	0900				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	10/21/13	1305	3.1	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: 10/19/13

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(913)599-5665

October 28, 2013

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

RE: Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 21, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155876001	**316-110R**	Water	10/20/13 13:15	10/21/13 13:05
60155876002	**TRIP BLANK**	Water	10/20/13 13:15	10/21/13 13:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155876001	**316-110R**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155876002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Sample: 316-110R **Lab ID: 60155876001** Collected: 10/20/13 13:15 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7000**	ug/L	150	2	10/22/13 11:15	10/23/13 14:56	7429-90-5	
Antimony	ND	ug/L	200	20	10/22/13 11:15	10/22/13 20:40	7440-36-0	D3
Arsenic	**1020**	ug/L	20.0	2	10/22/13 11:15	10/22/13 20:33	7440-38-2	
Beryllium	ND	ug/L	2.0	2	10/22/13 11:15	10/23/13 14:56	7440-41-7	
Cadmium	ND	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:37	7440-43-9	D3
Chromium	**356**	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:37	7440-47-3	
Cobalt	**56.0**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:33	7440-48-4	
Copper	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 20:37	7440-50-8	
Iron	**1120000**	ug/L	1000	20	10/22/13 11:15	10/24/13 10:46	7439-89-6	
Lead	**188**	ug/L	25.0	5	10/22/13 11:15	10/22/13 20:37	7439-92-1	
Nickel	**122**	ug/L	10.0	2	10/22/13 11:15	10/22/13 20:33	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 20:37	7782-49-2	
Silver	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 20:37	7440-22-4	
Thallium	ND	ug/L	100	5	10/22/13 11:15	10/22/13 20:37	7440-28-0	
Zinc	**15500**	ug/L	1000	20	10/22/13 11:15	10/22/13 20:40	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4720**	ug/L	150	2	10/22/13 11:15	10/22/13 22:20	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/22/13 11:15	10/22/13 22:27	7440-36-0	D3
Arsenic, Dissolved	**892**	ug/L	20.0	2	10/22/13 11:15	10/22/13 22:20	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/22/13 11:15	10/22/13 22:20	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:20	7440-43-9	
Chromium, Dissolved	**296**	ug/L	25.0	5	10/22/13 11:15	10/22/13 22:23	7440-47-3	
Cobalt, Dissolved	**43.3**	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:20	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	5	10/22/13 11:15	10/22/13 22:23	7440-50-8	D3
Iron, Dissolved	**862000**	ug/L	1000	20	10/22/13 11:15	10/22/13 22:27	7439-89-6	
Lead, Dissolved	**78.6**	ug/L	25.0	5	10/22/13 11:15	10/23/13 19:05	7439-92-1	
Nickel, Dissolved	**103**	ug/L	10.0	2	10/22/13 11:15	10/22/13 22:20	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/22/13 11:15	10/22/13 22:23	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	5	10/22/13 11:15	10/22/13 22:23	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/22/13 11:15	10/22/13 22:23	7440-28-0	
Zinc, Dissolved	**13800**	ug/L	1000	20	10/22/13 11:15	10/22/13 22:27	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	10/22/13 09:00	10/22/13 13:00	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	10/22/13 09:00	10/22/13 13:31	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/22/13 00:00	10/23/13 10:40	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Sample: 316-110R **Lab ID: 60155876001** Collected: 10/20/13 13:15 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	87-86-5	
Phenol	**12000**	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/22/13 00:00	10/23/13 10:40	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	92	%	33-120	2	10/22/13 00:00	10/23/13 10:40	4165-60-0	
2-Fluorobiphenyl (S)	63	%	39-120	2	10/22/13 00:00	10/23/13 10:40	321-60-8	
Terphenyl-d14 (S)	69	%	45-120	2	10/22/13 00:00	10/23/13 10:40	1718-51-0	
Phenol-d6 (S)	31	%	11-120	2	10/22/13 00:00	10/23/13 10:40	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	10/22/13 00:00	10/23/13 10:40	367-12-4	
2,4,6-Tribromophenol (S)	66	%	39-120	2	10/22/13 00:00	10/23/13 10:40	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/23/13 15:56	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/23/13 15:56	75-27-4	
Bromoform	ND	ug/L	200	200		10/23/13 15:56	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/23/13 15:56	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/23/13 15:56	56-23-5	
Chloroethane	ND	ug/L	200	200		10/23/13 15:56	75-00-3	
Chloroform	ND	ug/L	200	200		10/23/13 15:56	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/23/13 15:56	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/23/13 15:56	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 15:56	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 15:56	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/23/13 15:56	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/23/13 15:56	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/23/13 15:56	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/23/13 15:56	127-18-4	
Toluene	ND	ug/L	200	200		10/23/13 15:56	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/23/13 15:56	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/23/13 15:56	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/23/13 15:56	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/23/13 15:56	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/23/13 15:56	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	90	%	80-120	200		10/23/13 15:56	460-00-4	D3,HS
Toluene-d8 (S)	113	%	80-120	200		10/23/13 15:56	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		10/23/13 15:56	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/23/13 15:56		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**639**	mg/L	5.0	1		10/22/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/24/13 07:47		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Sample: 316-110R **Lab ID: 60155876001** Collected: 10/20/13 13:15 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3940**	mg/L	5.0	1		10/24/13 12:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/22/13 08:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**23400**	mg/L	2.0	1	10/21/13 15:21	10/26/13 10:15		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**697**	mg/L	20.0	200		10/23/13 15:49	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**93100**	mg/L	10000	1000		10/23/13 16:02		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Sample: TRIP BLANK **Lab ID: 60155876002** Collected: 10/20/13 13:15 Received: 10/21/13 13:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/23/13 16:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/23/13 16:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/23/13 16:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/23/13 16:11	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/23/13 16:11	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/23/13 16:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/23/13 16:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/23/13 16:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/23/13 16:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 16:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 16:11	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/23/13 16:11	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/23/13 16:11	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/23/13 16:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/23/13 16:11	127-18-4	
Toluene	ND	ug/L	1.0	1		10/23/13 16:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/23/13 16:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/23/13 16:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/23/13 16:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/23/13 16:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/23/13 16:11	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	92	%	80-120	1		10/23/13 16:11	460-00-4	
Toluene-d8 (S)	114	%	80-120	1		10/23/13 16:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	91	%	80-120	1		10/23/13 16:11	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/23/13 16:11		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MERP/7844
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155876001

METHOD BLANK: 1275889 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/22/13 12:42	

LABORATORY CONTROL SAMPLE: 1275890

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: 1275891 1275892

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	0.29	0.34	5	6	70-130	17	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MERP/7843
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155876001

METHOD BLANK: 1275883 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/22/13 13:07	

LABORATORY CONTROL SAMPLE: 1275884

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1275885

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	2.3	44	70-130	M1

MATRIX SPIKE SAMPLE: 1275887

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	.17J	3	70-130	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MPRP/24823
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155876001

METHOD BLANK: 1275980 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/22/13 17:54	
Antimony	ug/L	ND	10.0	10/22/13 17:54	
Arsenic	ug/L	ND	10.0	10/22/13 17:54	
Beryllium	ug/L	ND	1.0	10/22/13 17:54	
Cadmium	ug/L	ND	5.0	10/22/13 17:54	
Chromium	ug/L	ND	5.0	10/22/13 17:54	
Cobalt	ug/L	ND	5.0	10/22/13 17:54	
Copper	ug/L	ND	10.0	10/22/13 17:54	
Iron	ug/L	ND	50.0	10/22/13 17:54	
Lead	ug/L	ND	5.0	10/22/13 17:54	
Nickel	ug/L	ND	5.0	10/22/13 17:54	
Selenium	ug/L	ND	15.0	10/22/13 17:54	
Silver	ug/L	ND	7.0	10/22/13 17:54	
Thallium	ug/L	ND	20.0	10/22/13 17:54	
Zinc	ug/L	ND	50.0	10/22/13 17:54	

LABORATORY CONTROL SAMPLE: 1275981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1090	109	85-115	
Arsenic	ug/L	1000	1060	106	85-115	
Beryllium	ug/L	1000	1120	112	85-115	
Cadmium	ug/L	1000	1080	108	85-115	
Chromium	ug/L	1000	1080	108	85-115	
Cobalt	ug/L	1000	1110	111	85-115	
Copper	ug/L	1000	1080	108	85-115	
Iron	ug/L	10000	11300	113	85-115	
Lead	ug/L	1000	1130	113	85-115	
Nickel	ug/L	1000	1110	111	85-115	
Selenium	ug/L	1000	1090	109	85-115	
Silver	ug/L	500	527	105	85-115	
Thallium	ug/L	1000	1130	113	85-115	
Zinc	ug/L	1000	1080	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	7530	10000	10000	20600	20400	130	129	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275982 1275983

Parameter	Units	60155621001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	968	936	89	86	70-130	3	7	
Arsenic	ug/L	903	1000	1000	2150	2160	125	125	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	962	952	96	95	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1090	1060	109	106	70-130	2	10	
Chromium	ug/L	349	1000	1000	1420	1410	108	106	70-130	1	10	
Cobalt	ug/L	50.8	1000	1000	1050	1040	100	99	70-130	1	6	
Copper	ug/L	ND	1000	1000	1070	1040	107	104	70-130	3	11	
Iron	ug/L	1010000	10000	10000	1050000	1110000	368	978	70-130	6	10	M1
Lead	ug/L	179	1000	1000	1170	1150	99	97	70-130	2	10	
Nickel	ug/L	119	1000	1000	1100	1090	98	97	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1060	105	106	70-130	1	10	
Silver	ug/L	ND	500	500	137	102	24	17	70-130	29	10	M1,R1
Thallium	ug/L	ND	1000	1000	824	810	82	81	70-130	2	6	
Zinc	ug/L	14900	1000	1000	15500	15300	63	42	70-130	1	11	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1275984 1275985

Parameter	Units	60155874001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9260	10000	10000	23100	22300	138	131	70-130	3	8	M1
Antimony	ug/L	ND	1000	1000	868	870	76	76	70-130	0	7	
Arsenic	ug/L	1130	1000	1000	2430	2430	131	130	70-130	0	10	M1
Beryllium	ug/L	ND	1000	1000	1010	968	101	97	70-130	4	7	
Cadmium	ug/L	ND	1000	1000	1080	1050	108	105	70-130	2	10	
Chromium	ug/L	401	1000	1000	1460	1440	106	104	70-130	1	10	
Cobalt	ug/L	62.8	1000	1000	1080	1050	101	98	70-130	3	6	
Copper	ug/L	ND	1000	1000	1050	1030	105	102	70-130	2	11	
Iron	ug/L	1370000	10000	10000	1350000	1380000	-148	102	70-130	2	10	M1
Lead	ug/L	273	1000	1000	1240	1220	97	94	70-130	2	10	
Nickel	ug/L	129	1000	1000	1120	1090	100	96	70-130	3	10	
Selenium	ug/L	ND	1000	1000	980	950	98	95	70-130	3	10	
Silver	ug/L	ND	500	500	114	131	18	21	70-130	13	10	M1,R1
Thallium	ug/L	ND	1000	1000	830	805	83	80	70-130	3	6	
Zinc	ug/L	14800	1000	1000	15700	16200	87	140	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MPRP/24824
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155876001

METHOD BLANK: 1275991 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/23/13 18:22	
Antimony, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Arsenic, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Beryllium, Dissolved	ug/L	ND	1.0	10/23/13 18:22	
Cadmium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Chromium, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Cobalt, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Copper, Dissolved	ug/L	ND	10.0	10/22/13 20:53	
Iron, Dissolved	ug/L	ND	50.0	10/23/13 18:22	
Lead, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Nickel, Dissolved	ug/L	ND	5.0	10/22/13 20:53	
Selenium, Dissolved	ug/L	ND	15.0	10/22/13 20:53	
Silver, Dissolved	ug/L	ND	7.0	10/22/13 20:53	
Thallium, Dissolved	ug/L	ND	20.0	10/22/13 20:53	
Zinc, Dissolved	ug/L	ND	50.0	10/22/13 20:53	

LABORATORY CONTROL SAMPLE: 1275992

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	967	97	85-115	
Arsenic, Dissolved	ug/L	1000	958	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	989	99	85-115	
Chromium, Dissolved	ug/L	1000	1050	105	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	990	99	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	1060	106	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	979	98	85-115	
Silver, Dissolved	ug/L	500	497	99	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	1050	105	85-115	

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4750	10000	14900	102	70-130	
Antimony, Dissolved	ug/L	ND	1000	990	91	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

MATRIX SPIKE SAMPLE: 1275993

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	798	1000	1700	90	70-130	
Beryllium, Dissolved	ug/L	ND	1000	976	98	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1080	108	70-130	
Chromium, Dissolved	ug/L	296	1000	1320	103	70-130	
Cobalt, Dissolved	ug/L	40.7	1000	1050	101	70-130	
Copper, Dissolved	ug/L	ND	1000	1030	103	70-130	
Iron, Dissolved	ug/L	820000	10000	864000	436	70-130	M1
Lead, Dissolved	ug/L	103	1000	1060	95	70-130	
Nickel, Dissolved	ug/L	101	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	908	90	70-130	
Silver, Dissolved	ug/L	ND	500	234	44	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	818	82	70-130	
Zinc, Dissolved	ug/L	13600	1000	14500	85	70-130	

MATRIX SPIKE SAMPLE: 1275994

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	4800	10000	17000	122	70-130	
Antimony, Dissolved	ug/L	ND	1000	1060	97	70-130	
Arsenic, Dissolved	ug/L	940	1000	2240	130	70-130	
Beryllium, Dissolved	ug/L	ND	1000	995	100	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1090	109	70-130	
Chromium, Dissolved	ug/L	296	1000	1390	109	70-130	
Cobalt, Dissolved	ug/L	39.6	1000	1060	102	70-130	
Copper, Dissolved	ug/L	ND	1000	1060	106	70-130	
Iron, Dissolved	ug/L	757000	10000	783000	256	70-130	M1
Lead, Dissolved	ug/L	86.4	1000	989	90	70-130	
Nickel, Dissolved	ug/L	94.3	1000	1090	99	70-130	
Selenium, Dissolved	ug/L	ND	1000	1040	104	70-130	
Silver, Dissolved	ug/L	ND	500	199	37	70-130	M1
Thallium, Dissolved	ug/L	ND	1000	850	85	70-130	
Zinc, Dissolved	ug/L	12700	1000	14100	139	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MSV/57162
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60155876001, 60155876002

METHOD BLANK: 1276723
Matrix: Water
Associated Lab Samples: 60155876001, 60155876002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/23/13 12:24	
Benzene	ug/L	ND	1.0	10/23/13 12:24	
Bromodichloromethane	ug/L	ND	1.0	10/23/13 12:24	
Bromoform	ug/L	ND	1.0	10/23/13 12:24	
Bromomethane	ug/L	ND	5.0	10/23/13 12:24	
Carbon tetrachloride	ug/L	ND	1.0	10/23/13 12:24	
Chloroethane	ug/L	ND	1.0	10/23/13 12:24	
Chloroform	ug/L	ND	1.0	10/23/13 12:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Ethylbenzene	ug/L	ND	1.0	10/23/13 12:24	
Methylene chloride	ug/L	ND	1.0	10/23/13 12:24	
Tetrachloroethene	ug/L	ND	1.0	10/23/13 12:24	
Toluene	ug/L	ND	1.0	10/23/13 12:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Trichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Vinyl chloride	ug/L	ND	1.0	10/23/13 12:24	
Xylene (Total)	ug/L	ND	3.0	10/23/13 12:24	
1,2-Dichloroethane-d4 (S)	%	95	80-120	10/23/13 12:24	
4-Bromofluorobenzene (S)	%	92	80-120	10/23/13 12:24	
Toluene-d8 (S)	%	109	80-120	10/23/13 12:24	

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	59-138	
1,1,2-Trichloroethane	ug/L	20	17.7	89	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	17.6	88	68-124	
Benzene	ug/L	20	19.9	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	7.4	37	10-160	
Carbon tetrachloride	ug/L	20	20.7	104	70-140	
Chloroethane	ug/L	20	13.4	67	42-160	
Chloroform	ug/L	20	18.5	93	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.9	99	66-133	
Methylene chloride	ug/L	20	18.8	94	56-135	
Tetrachloroethene	ug/L	20	20.0	100	64-143	
Toluene	ug/L	20	21.1	105	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	12.3	61	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			90	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1276725

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3160	79	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3650	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3890	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3660	88	18-147	
Benzene	ug/L	ND	4000	4390	108	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1110	28	10-160	
Carbon tetrachloride	ug/L	ND	4000	4730	118	70-140	
Chloroethane	ug/L	ND	4000	2840	71	14-160	
Chloroform	ug/L	ND	4000	4010	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4270	107	19-160	
Ethylbenzene	ug/L	ND	4000	4060	102	37-154	
Methylene chloride	ug/L	ND	4000	3980	98	15-156	
Tetrachloroethene	ug/L	ND	4000	4300	107	64-148	
Toluene	ug/L	ND	4000	4610	115	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4330	108	54-156	
Trichloroethene	ug/L	ND	4000	4460	112	71-157	
Vinyl chloride	ug/L	ND	4000	2840	71	10-160	
Xylene (Total)	ug/L	ND	12000	11800	98	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				109	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: OEXT/41098
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155876001

METHOD BLANK: 1275808
Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/23/13 08:56	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/23/13 08:56	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/23/13 08:56	
Hexachloroethane	ug/L	ND	5.0	10/23/13 08:56	
Naphthalene	ug/L	ND	5.0	10/23/13 08:56	
Nitrobenzene	ug/L	ND	5.0	10/23/13 08:56	
Pentachlorophenol	ug/L	ND	5.0	10/23/13 08:56	
Phenol	ug/L	ND	5.0	10/23/13 08:56	
2,4,6-Tribromophenol (S)	%	82	39-120	10/23/13 08:56	
2-Fluorobiphenyl (S)	%	83	39-120	10/23/13 08:56	
2-Fluorophenol (S)	%	55	17-120	10/23/13 08:56	
Nitrobenzene-d5 (S)	%	80	33-120	10/23/13 08:56	
Phenol-d6 (S)	%	39	11-120	10/23/13 08:56	
Terphenyl-d14 (S)	%	89	45-120	10/23/13 08:56	

LABORATORY CONTROL SAMPLE: 1275809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.3	65	46-120	
2,4,6-Trichlorophenol	ug/L	50	34.3	69	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	41.5	83	40-133	
Hexachloro-1,3-butadiene	ug/L	50	31.3	63	44-116	
Hexachlorocyclopentadiene	ug/L	100	45.7	46	24-120	
Hexachloroethane	ug/L	50	28.6	57	43-113	
Naphthalene	ug/L	50	35.5	71	48-120	
Nitrobenzene	ug/L	50	36.3	73	48-120	
Pentachlorophenol	ug/L	50	34.8	70	47-120	
Phenol	ug/L	50	19.8	40	16-112	
2,4,6-Tribromophenol (S)	%			72	39-120	
2-Fluorobiphenyl (S)	%			71	39-120	
2-Fluorophenol (S)	%			48	17-120	
Nitrobenzene-d5 (S)	%			69	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			81	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

MATRIX SPIKE SAMPLE: 1275810

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3260	65	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3900	78	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4170J	83	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3140	63	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5030	50	11-120	
Hexachloroethane	ug/L	ND	5000	3040	61	40-113	
Naphthalene	ug/L	ND	5000	3910	78	45-120	
Nitrobenzene	ug/L	ND	5000	3610	72	38-120	
Pentachlorophenol	ug/L	ND	5000	4220	84	43-135	
Phenol	ug/L	11200	5000	17000	117	13-112	M1
2,4,6-Tribromophenol (S)	%				80	39-120	
2-Fluorobiphenyl (S)	%				75	39-120	
2-Fluorophenol (S)	%				50	17-120	
Nitrobenzene-d5 (S)	%				114	33-120	
Phenol-d6 (S)	%				37	11-120	
Terphenyl-d14 (S)	%				79	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WET/44144 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155876001

METHOD BLANK: 1275791 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/22/13 07:02	

LABORATORY CONTROL SAMPLE: 1275792

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.7	104	78-114	

MATRIX SPIKE SAMPLE: 1275796

Parameter	Units	60155777002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	2.3J	42.1	43.1	97	78-114	

SAMPLE DUPLICATE: 1275795

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	747	720	4	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WET/44191 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155876001

METHOD BLANK: 1277141 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/24/13 07:43	

LABORATORY CONTROL SAMPLE: 1277142

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.7	104	64-132	

MATRIX SPIKE SAMPLE: 1277147

Parameter	Units	60155800001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	22.5	24.9	105	64-132	

SAMPLE DUPLICATE: 1277146

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.2J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WET/44196 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155876001

METHOD BLANK: 1277285 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/24/13 12:27	

SAMPLE DUPLICATE: 1277286

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3860	3960	3	25	

SAMPLE DUPLICATE: 1277287

Parameter	Units	60155810003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	38.0	39.0	3	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WET/44141
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155876001

SAMPLE DUPLICATE: 1275779

Parameter	Units	60155874001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.4	5.4	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WET/44137 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155876001

METHOD BLANK: 1275688 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/26/13 09:53	

LABORATORY CONTROL SAMPLE: 1275689

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	186	94	85-115	

SAMPLE DUPLICATE: 1275690

Parameter	Units	60155876001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	23400	25200	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WETA/26803
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155876001

METHOD BLANK: 1276829 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/23/13 15:39	

LABORATORY CONTROL SAMPLE: 1276830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1276831

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	752	400	1100	88	90-110	M1

SAMPLE DUPLICATE: 1276832

Parameter	Units	60155875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	709	693	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: WETA/26770 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155876001

METHOD BLANK: 1275852 Matrix: Water
Associated Lab Samples: 60155876001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/23/13 15:50	

LABORATORY CONTROL SAMPLE: 1275853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.2	98	90-110	

MATRIX SPIKE SAMPLE: 1275854

Parameter	Units	60155621001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75600	50000	133000	115	90-110	M1

MATRIX SPIKE SAMPLE: 1275855

Parameter	Units	60155721001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	81900	50000	122000	81	90-110	M1

MATRIX SPIKE SAMPLE: 1275856

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	71200	50000	122000	101	90-110	

MATRIX SPIKE SAMPLE: 1275857

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	69200	50000	123000	107	90-110	

MATRIX SPIKE SAMPLE: 1275858

Parameter	Units	60155875001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	73200	50000	122000	98	90-110	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

MATRIX SPIKE SAMPLE: 1275859

Parameter	Units	60155876001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	93100	50000	119000	51	90-110	M1

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155876001	**316-110R**	EPA 200.7	MPRP/24823	EPA 200.7	ICP/19258
60155876001	**316-110R**	EPA 200.7	MPRP/24824	EPA 200.7	ICP/19254
60155876001	**316-110R**	EPA 245.1	MERP/7844	EPA 245.1	MERC/7802
60155876001	**316-110R**	EPA 245.1	MERP/7843	EPA 245.1	MERC/7803
60155876001	**316-110R**	EPA 625	OEXT/41098	EPA 625	MSSV/13048
60155876001	**316-110R**	EPA 624 Low	MSV/57162		
60155876002	**TRIP BLANK**	EPA 624 Low	MSV/57162		
60155876001	**316-110R**	EPA 1664A	WET/44144		
60155876001	**316-110R**	EPA 1664A	WET/44191		
60155876001	**316-110R**	SM 2540D	WET/44196		
60155876001	**316-110R**	SM 4500-H+B	WET/44141		
60155876001	**316-110R**	SM 5210B	WET/44137	SM 5210B	WET/44245
60155876001	**316-110R**	EPA 350.1	WETA/26803		
60155876001	**316-110R**	EPA 410.4	WETA/26770		

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Sample Condition Upon Receipt

WO# : 60155876

60155876

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-112 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 4.1

Date and initials of person examining contents: lm 10/21/13

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	HNO_3 volume initial pH ~6.0; added 2.5 mL HNO_3; Final pH ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	H_2SO_4 volume initial pH ~6.0; added 2 mL H_2SO_4; Final pH ~3.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed lm Lot # of added preservative 12520/12510
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct 14		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. Headspace in 5 of 5 sample vials 8260-110R only
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: FOOTNOTE HS BASED ON HISTORICAL INSTRUCTIONS.

Project Manager Review: _____ Date: 10/22/13

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:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No:	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	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)	00155876 2(AG1H) 2(AG2U) 3(DG4U) 6AGU 6AGS BAGU 2(AG2U)
1	316-110R	OT	G			10/20/13	1315		14	10	1	1	2						X	X	X	X	X	X	X	X	X	X		
2	TRIP BLANK								2	2																X				
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

LOG samples as OQS

2(OG4U)

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		10-21-13	0900	Bill Stone 412	10-21-13	0900				
SITE ADDRESS: BRIDGETON LF					10/21/13	1305	4.1	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: 10/20/13				

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

October 30, 2013

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

RE: Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 23, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155988001	**316-112**	Water	10/22/13 11:30	10/23/13 02:00
60155988002	**TRIP BLANK**	Water	10/22/13 11:30	10/23/13 02:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155988001	**316-112**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60155988002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Sample: 316-112 **Lab ID: 60155988001** Collected: 10/22/13 11:30 Received: 10/23/13 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	**8510**	ug/L	150	2	10/24/13 16:15	10/25/13 18:44	7429-90-5	
Antimony	ND	ug/L	200	20	10/24/13 16:15	10/25/13 18:51	7440-36-0	D3
Arsenic	**914**	ug/L	20.0	2	10/24/13 16:15	10/25/13 18:44	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/24/13 16:15	10/28/13 17:57	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:44	7440-43-9	D3
Chromium	**329**	ug/L	25.0	5	10/24/13 16:15	10/25/13 18:47	7440-47-3	
Cobalt	**43.8**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:44	7440-48-4	
Copper	ND	ug/L	20.0	2	10/24/13 16:15	10/25/13 18:44	7440-50-8	
Iron	**1120000**	ug/L	1000	20	10/24/13 16:15	10/25/13 18:51	7439-89-6	
Lead	**160**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:44	7439-92-1	
Nickel	**143**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:44	7440-02-0	
Selenium	**85.7**	ug/L	75.0	5	10/24/13 16:15	10/25/13 18:47	7782-49-2	
Silver	ND	ug/L	14.0	2	10/24/13 16:15	10/25/13 18:44	7440-22-4	
Thallium	ND	ug/L	100	5	10/24/13 16:15	10/28/13 17:57	7440-28-0	
Zinc	**14300**	ug/L	1000	20	10/24/13 16:15	10/28/13 18:01	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4020**	ug/L	150	1	10/28/13 11:00	10/29/13 14:59	7429-90-5	
Antimony, Dissolved	ND	ug/L	100	5	10/28/13 11:00	10/29/13 14:17	7440-36-0	D3
Arsenic, Dissolved	**846**	ug/L	20.0	1	10/28/13 11:00	10/29/13 14:59	7440-38-2	
Beryllium, Dissolved	ND	ug/L	10.0	5	10/28/13 11:00	10/29/13 14:17	7440-41-7	
Cadmium, Dissolved	ND	ug/L	10.0	1	10/28/13 11:00	10/29/13 14:59	7440-43-9	D3
Chromium, Dissolved	**263**	ug/L	20.0	2	10/28/13 11:00	10/29/13 14:14	7440-47-3	
Cobalt, Dissolved	**37.0**	ug/L	10.0	1	10/28/13 11:00	10/29/13 14:59	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	1	10/28/13 11:00	10/29/13 14:59	7440-50-8	
Iron, Dissolved	**834000**	ug/L	500	5	10/28/13 11:00	10/29/13 17:04	7439-89-6	M1
Lead, Dissolved	**76.6**	ug/L	10.0	1	10/28/13 11:00	10/29/13 14:59	7439-92-1	
Nickel, Dissolved	**90.8**	ug/L	10.0	1	10/28/13 11:00	10/29/13 14:59	7440-02-0	
Selenium, Dissolved	ND	ug/L	60.0	2	10/28/13 11:00	10/29/13 14:14	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	1	10/28/13 11:00	10/29/13 14:59	7440-22-4	M1,R1
Thallium, Dissolved	ND	ug/L	80.0	2	10/28/13 11:00	10/29/13 14:14	7440-28-0	D3
Zinc, Dissolved	**11500**	ug/L	500	5	10/28/13 11:00	10/29/13 14:17	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.9**	ug/L	0.20	1	10/24/13 08:30	10/24/13 15:06	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	10/24/13 08:30	10/24/13 15:41	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/23/13 00:00	10/25/13 19:55	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Sample: 316-112 **Lab ID: 60155988001** Collected: 10/22/13 11:30 Received: 10/23/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	87-86-5	
Phenol	**12600**	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/23/13 00:00	10/25/13 19:55	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	107	%	33-120	2	10/23/13 00:00	10/25/13 19:55	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	2	10/23/13 00:00	10/25/13 19:55	321-60-8	
Terphenyl-d14 (S)	72	%	45-120	2	10/23/13 00:00	10/25/13 19:55	1718-51-0	
Phenol-d6 (S)	42	%	11-120	2	10/23/13 00:00	10/25/13 19:55	13127-88-3	
2-Fluorophenol (S)	44	%	17-120	2	10/23/13 00:00	10/25/13 19:55	367-12-4	
2,4,6-Tribromophenol (S)	72	%	39-120	2	10/23/13 00:00	10/25/13 19:55	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/23/13 16:26	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/23/13 16:26	75-27-4	
Bromoform	ND	ug/L	200	200		10/23/13 16:26	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/23/13 16:26	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/23/13 16:26	56-23-5	
Chloroethane	ND	ug/L	200	200		10/23/13 16:26	75-00-3	
Chloroform	ND	ug/L	200	200		10/23/13 16:26	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/23/13 16:26	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/23/13 16:26	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 16:26	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/23/13 16:26	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/23/13 16:26	100-41-4	
Methylene chloride	ND	ug/L	200	200		10/23/13 16:26	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/23/13 16:26	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/23/13 16:26	127-18-4	
Toluene	ND	ug/L	200	200		10/23/13 16:26	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/23/13 16:26	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/23/13 16:26	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/23/13 16:26	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/23/13 16:26	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/23/13 16:26	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	91	%	80-120	200		10/23/13 16:26	460-00-4	D3
Toluene-d8 (S)	111	%	80-120	200		10/23/13 16:26	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		10/23/13 16:26	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/23/13 16:26		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**554**	mg/L	5.0	1		10/24/13 07:34		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/30/13 08:06		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Sample: 316-112 **Lab ID: 60155988001** Collected: 10/22/13 11:30 Received: 10/23/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4120**	mg/L	5.0	1		10/24/13 12:42		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/24/13 15:20		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**35000**	mg/L	2.0	1	10/24/13 09:11	10/29/13 08:36		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**689**	mg/L	20.0	200		10/23/13 15:50	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**64800**	mg/L	10000	1000		10/29/13 13:57		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Sample: TRIP BLANK **Lab ID: 60155988002** Collected: 10/22/13 11:30 Received: 10/23/13 02:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/23/13 16:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/23/13 16:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/23/13 16:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/23/13 16:43	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/23/13 16:43	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/23/13 16:43	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/23/13 16:43	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/23/13 16:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/23/13 16:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 16:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/23/13 16:43	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/23/13 16:43	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/23/13 16:43	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/23/13 16:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/23/13 16:43	127-18-4	
Toluene	ND	ug/L	1.0	1		10/23/13 16:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/23/13 16:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/23/13 16:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/23/13 16:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/23/13 16:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/23/13 16:43	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	1		10/23/13 16:43	460-00-4	
Toluene-d8 (S)	113	%	80-120	1		10/23/13 16:43	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		10/23/13 16:43	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/23/13 16:43		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: MERP/7852
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60155988001

METHOD BLANK: 1277253 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/24/13 14:57	

LABORATORY CONTROL SAMPLE: 1277254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.3	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1277255 1277256

Parameter	Units	60156025001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	2.1	5.2	39	101	70-130	84	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: MERP/7853
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60155988001

METHOD BLANK: 1277257 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/24/13 15:21	

LABORATORY CONTROL SAMPLE: 1277258

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.8	115	85-115	

MATRIX SPIKE SAMPLE: 1277259

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	5	0.27	5	70-130	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: MPRP/24861
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60155988001

METHOD BLANK: 1277803 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/25/13 17:18	
Antimony	ug/L	ND	10.0	10/25/13 17:18	
Arsenic	ug/L	ND	10.0	10/25/13 17:18	
Beryllium	ug/L	ND	1.0	10/25/13 17:18	
Cadmium	ug/L	ND	5.0	10/25/13 17:18	
Chromium	ug/L	ND	5.0	10/25/13 17:18	
Cobalt	ug/L	ND	5.0	10/25/13 17:18	
Copper	ug/L	ND	10.0	10/25/13 17:18	
Iron	ug/L	76.6	50.0	10/25/13 17:18	
Lead	ug/L	ND	5.0	10/25/13 17:18	
Nickel	ug/L	ND	5.0	10/25/13 17:18	
Selenium	ug/L	ND	15.0	10/25/13 17:18	
Silver	ug/L	ND	7.0	10/25/13 17:18	
Thallium	ug/L	ND	20.0	10/28/13 17:45	
Zinc	ug/L	ND	50.0	10/28/13 17:45	

LABORATORY CONTROL SAMPLE: 1277804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9800	98	85-115	
Antimony	ug/L	1000	988	99	85-115	
Arsenic	ug/L	1000	943	94	85-115	
Beryllium	ug/L	1000	981	98	85-115	
Cadmium	ug/L	1000	974	97	85-115	
Chromium	ug/L	1000	968	97	85-115	
Cobalt	ug/L	1000	993	99	85-115	
Copper	ug/L	1000	961	96	85-115	
Iron	ug/L	10000	9600	96	85-115	
Lead	ug/L	1000	986	99	85-115	
Nickel	ug/L	1000	974	97	85-115	
Selenium	ug/L	1000	941	94	85-115	
Silver	ug/L	500	463	93	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	990	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1277805 1277806

Parameter	Units	60155706002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	108	10000	10000	9710	9790	96	97	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1277805 1277806

Parameter	Units	60155706002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	998	1010	100	101	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	974	983	97	98	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	964	969	96	97	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	975	987	98	99	70-130	1	10	
Chromium	ug/L	ND	1000	1000	946	954	94	95	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	948	959	95	96	70-130	1	6	
Copper	ug/L	ND	1000	1000	965	972	96	97	70-130	1	11	
Iron	ug/L	82.7	10000	10000	9410	9480	93	94	70-130	1	10	
Lead	ug/L	ND	1000	1000	924	937	92	94	70-130	1	10	
Nickel	ug/L	ND	1000	1000	923	929	92	93	70-130	1	10	
Selenium	ug/L	76.5	1000	1000	1030	1040	95	96	70-130	1	10	
Silver	ug/L	ND	500	500	468	473	94	95	70-130	1	10	
Thallium	ug/L	ND	1000	1000	922	927	92	93	70-130	1	6	
Zinc	ug/L	ND	1000	1000	985	996	98	99	70-130	1	11	

MATRIX SPIKE SAMPLE: 1277807

Parameter	Units	60155863001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	174	10000	9770	96	70-130	
Antimony	ug/L	ND	1000	967	96	70-130	
Arsenic	ug/L	ND	1000	929	93	70-130	
Beryllium	ug/L	ND	1000	967	97	70-130	
Cadmium	ug/L	0.10 mg/L	1000	1050	95	70-130	
Chromium	ug/L	0.31 mg/L	1000	1250	93	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	0.18 mg/L	1000	1120	94	70-130	
Iron	ug/L	530	10000	9580	90	70-130	
Lead	ug/L	0.052 mg/L	1000	993	94	70-130	
Nickel	ug/L	1.0 mg/L	1000	1930	88	70-130	
Selenium	ug/L	ND	1000	915	92	70-130	
Silver	ug/L	0.023 mg/L	500	477	91	70-130	
Thallium	ug/L	ND	1000	972	97	70-130	
Zinc	ug/L	0.27 mg/L	1000	1240	97	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: MPRP/24879
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60155988001

METHOD BLANK: 1279523 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/29/13 14:08	
Antimony, Dissolved	ug/L	ND	10.0	10/29/13 14:08	
Arsenic, Dissolved	ug/L	ND	10.0	10/29/13 14:08	
Beryllium, Dissolved	ug/L	ND	1.0	10/29/13 14:08	
Cadmium, Dissolved	ug/L	ND	5.0	10/29/13 14:08	
Chromium, Dissolved	ug/L	ND	5.0	10/29/13 14:08	
Cobalt, Dissolved	ug/L	ND	5.0	10/29/13 14:08	
Copper, Dissolved	ug/L	ND	10.0	10/29/13 14:08	
Iron, Dissolved	ug/L	333	50.0	10/29/13 16:58	
Lead, Dissolved	ug/L	ND	5.0	10/29/13 14:08	
Nickel, Dissolved	ug/L	ND	5.0	10/29/13 14:08	
Selenium, Dissolved	ug/L	ND	15.0	10/29/13 14:08	
Silver, Dissolved	ug/L	ND	7.0	10/29/13 14:08	
Thallium, Dissolved	ug/L	ND	20.0	10/29/13 14:08	
Zinc, Dissolved	ug/L	ND	50.0	10/29/13 14:08	

LABORATORY CONTROL SAMPLE: 1279524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9790	98	85-115	
Antimony, Dissolved	ug/L	1000	1020	102	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	975	97	85-115	
Cadmium, Dissolved	ug/L	1000	986	99	85-115	
Chromium, Dissolved	ug/L	1000	964	96	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	977	98	85-115	
Iron, Dissolved	ug/L	10000	10200	102	85-115	
Lead, Dissolved	ug/L	1000	999	100	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	1010	101	85-115	
Silver, Dissolved	ug/L	500	481	96	85-115	
Thallium, Dissolved	ug/L	1000	1040	104	85-115	
Zinc, Dissolved	ug/L	1000	961	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279525 1279526

Parameter	Units	60155988001 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	4020	10000	10000	13800	13800	98	98	70-130	0	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279525 1279526

Parameter	Units	60155988001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1030	1070	98	101	70-130	3	7	
Arsenic, Dissolved	ug/L	846	1000	1000	1960	2010	111	117	70-130	3	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	976	940	98	94	70-130	4	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1040	1040	104	104	70-130	0	10	
Chromium, Dissolved	ug/L	263	1000	1000	1170	1190	91	92	70-130	1	10	
Cobalt, Dissolved	ug/L	37.0	1000	1000	922	915	89	88	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	994	988	99	99	70-130	1	11	
Iron, Dissolved	ug/L	834000	10000	10000	853000	861000	192	268	70-130	1	10	M1
Lead, Dissolved	ug/L	76.6	1000	1000	852	842	78	77	70-130	1	10	
Nickel, Dissolved	ug/L	90.8	1000	1000	976	977	89	89	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1170	1210	117	121	70-130	4	10	
Silver, Dissolved	ug/L	ND	500	500	35.5	520	7	104	70-130	174	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	742	75	74	70-130	2	6	
Zinc, Dissolved	ug/L	11500	1000	1000	12600	13000	107	150	70-130	3	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: MSV/57162 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60155988001, 60155988002

METHOD BLANK: 1276723 Matrix: Water
Associated Lab Samples: 60155988001, 60155988002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,2-Dichloroethane	ug/L	ND	1.0	10/23/13 12:24	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/23/13 12:24	
Benzene	ug/L	ND	1.0	10/23/13 12:24	
Bromodichloromethane	ug/L	ND	1.0	10/23/13 12:24	
Bromoform	ug/L	ND	1.0	10/23/13 12:24	
Bromomethane	ug/L	ND	5.0	10/23/13 12:24	
Carbon tetrachloride	ug/L	ND	1.0	10/23/13 12:24	
Chloroethane	ug/L	ND	1.0	10/23/13 12:24	
Chloroform	ug/L	ND	1.0	10/23/13 12:24	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Ethylbenzene	ug/L	ND	1.0	10/23/13 12:24	
Methylene chloride	ug/L	ND	1.0	10/23/13 12:24	
Tetrachloroethene	ug/L	ND	1.0	10/23/13 12:24	
Toluene	ug/L	ND	1.0	10/23/13 12:24	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Trichloroethene	ug/L	ND	1.0	10/23/13 12:24	
Vinyl chloride	ug/L	ND	1.0	10/23/13 12:24	
Xylene (Total)	ug/L	ND	3.0	10/23/13 12:24	
1,2-Dichloroethane-d4 (S)	%	95	80-120	10/23/13 12:24	
4-Bromofluorobenzene (S)	%	92	80-120	10/23/13 12:24	
Toluene-d8 (S)	%	109	80-120	10/23/13 12:24	

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	93	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	85	59-138	
1,1,2-Trichloroethane	ug/L	20	17.7	89	69-127	
1,2-Dichloroethane	ug/L	20	18.8	94	71-129	
1,4-Dichlorobenzene	ug/L	20	17.6	88	68-124	
Benzene	ug/L	20	19.9	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	7.4	37	10-160	
Carbon tetrachloride	ug/L	20	20.7	104	70-140	
Chloroethane	ug/L	20	13.4	67	42-160	
Chloroform	ug/L	20	18.5	93	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	97	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

LABORATORY CONTROL SAMPLE: 1276724

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.9	99	66-133	
Methylene chloride	ug/L	20	18.8	94	56-135	
Tetrachloroethene	ug/L	20	20.0	100	64-143	
Toluene	ug/L	20	21.1	105	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.5	98	67-149	
Trichloroethene	ug/L	20	20.7	103	71-130	
Vinyl chloride	ug/L	20	12.3	61	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			90	80-120	
Toluene-d8 (S)	%			107	80-120	

MATRIX SPIKE SAMPLE: 1276725

Parameter	Units	60155874001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4280	107	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3160	79	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3650	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3890	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3660	88	18-147	
Benzene	ug/L	ND	4000	4390	108	37-151	
Bromodichloromethane	ug/L	ND	4000	3890	97	35-155	
Bromoform	ug/L	ND	4000	3390	85	45-133	
Bromomethane	ug/L	ND	4000	1110	28	10-160	
Carbon tetrachloride	ug/L	ND	4000	4730	118	70-140	
Chloroethane	ug/L	ND	4000	2840	71	14-160	
Chloroform	ug/L	ND	4000	4010	100	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4270	107	19-160	
Ethylbenzene	ug/L	ND	4000	4060	102	37-154	
Methylene chloride	ug/L	ND	4000	3980	98	15-156	
Tetrachloroethene	ug/L	ND	4000	4300	107	64-148	
Toluene	ug/L	ND	4000	4610	115	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4330	108	54-156	
Trichloroethene	ug/L	ND	4000	4460	112	71-157	
Vinyl chloride	ug/L	ND	4000	2840	71	10-160	
Xylene (Total)	ug/L	ND	12000	11800	98	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				109	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: OEXT/41133
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60155988001

METHOD BLANK: 1277132 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/25/13 18:52	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/25/13 18:52	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/25/13 18:52	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/25/13 18:52	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/25/13 18:52	
Hexachloroethane	ug/L	ND	5.0	10/25/13 18:52	
Naphthalene	ug/L	ND	5.0	10/25/13 18:52	
Nitrobenzene	ug/L	ND	5.0	10/25/13 18:52	
Pentachlorophenol	ug/L	ND	5.0	10/25/13 18:52	
Phenol	ug/L	ND	5.0	10/25/13 18:52	
2,4,6-Tribromophenol (S)	%	71	39-120	10/25/13 18:52	
2-Fluorobiphenyl (S)	%	71	39-120	10/25/13 18:52	
2-Fluorophenol (S)	%	47	17-120	10/25/13 18:52	
Nitrobenzene-d5 (S)	%	70	33-120	10/25/13 18:52	
Phenol-d6 (S)	%	32	11-120	10/25/13 18:52	
Terphenyl-d14 (S)	%	74	45-120	10/25/13 18:52	

LABORATORY CONTROL SAMPLE: 1277133

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	36.5	73	46-120	
2,4,6-Trichlorophenol	ug/L	50	38.8	78	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	47.0	94	40-133	
Hexachloro-1,3-butadiene	ug/L	50	34.0	68	44-116	
Hexachlorocyclopentadiene	ug/L	100	54.4	54	24-120	
Hexachloroethane	ug/L	50	33.6	67	43-113	
Naphthalene	ug/L	50	37.4	75	48-120	
Nitrobenzene	ug/L	50	37.3	75	48-120	
Pentachlorophenol	ug/L	50	45.5	91	47-120	
Phenol	ug/L	50	15.6	31	16-112	
2,4,6-Tribromophenol (S)	%			79	39-120	
2-Fluorobiphenyl (S)	%			74	39-120	
2-Fluorophenol (S)	%			40	17-120	
Nitrobenzene-d5 (S)	%			71	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			78	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

MATRIX SPIKE SAMPLE: 1277134

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3740	75	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4200	84	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4520J	90	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3750	75	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5860	59	11-120	
Hexachloroethane	ug/L	ND	5000	3560	71	40-113	
Naphthalene	ug/L	ND	5000	4280	78	45-120	
Nitrobenzene	ug/L	ND	5000	3970	79	38-120	
Pentachlorophenol	ug/L	ND	5000	4880	98	43-135	
Phenol	ug/L	12600	5000	16300	75	13-112	
2,4,6-Tribromophenol (S)	%				84	39-120	
2-Fluorobiphenyl (S)	%				81	39-120	
2-Fluorophenol (S)	%				52	17-120	
Nitrobenzene-d5 (S)	%				118	33-120	
Phenol-d6 (S)	%				50	11-120	
Terphenyl-d14 (S)	%				81	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WET/44190
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60155988001

METHOD BLANK: 1277135 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/24/13 07:32	

LABORATORY CONTROL SAMPLE: 1277136

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.2	98	78-114	

MATRIX SPIKE SAMPLE: 1277139

Parameter	Units	60156029002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.7	96	78-114	

SAMPLE DUPLICATE: 1277140

Parameter	Units	60155949001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60155988001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WET/44197 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60155988001

METHOD BLANK: 1277288 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/24/13 12:38	

SAMPLE DUPLICATE: 1277289

Parameter	Units	60155902001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1277290

Parameter	Units	60156029001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	8.0	8.0	0	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WET/44206
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60155988001

SAMPLE DUPLICATE: 1277733

Parameter	Units	60156035001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.2	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WET/44193 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60155988001

METHOD BLANK: 1277161 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/29/13 07:14	

LABORATORY CONTROL SAMPLE: 1277162

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	195	98	85-115	

SAMPLE DUPLICATE: 1277163

Parameter	Units	60155988001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	35000	34200	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WETA/26803 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60155988001

METHOD BLANK: 1276829 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/23/13 15:39	

LABORATORY CONTROL SAMPLE: 1276830

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1276831

Parameter	Units	60155819001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	752	400	1100	88	90-110	M1

SAMPLE DUPLICATE: 1276832

Parameter	Units	60155875001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	709	693	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch: WETA/26865 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60155988001

METHOD BLANK: 1279604 Matrix: Water
Associated Lab Samples: 60155988001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/29/13 13:50	

LABORATORY CONTROL SAMPLE: 1279605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1279606

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64800	50000	117000	105	90-110	

MATRIX SPIKE SAMPLE: 1279607

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66200	50000	121000	110	90-110	

MATRIX SPIKE SAMPLE: 1279608

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	67100	50000	120000	107	90-110	

MATRIX SPIKE SAMPLE: 1279609

Parameter	Units	60156288001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66500	50000	111000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155988001	**316-112**	EPA 200.7	MPRP/24861	EPA 200.7	ICP/19279
60155988001	**316-112**	EPA 200.7	MPRP/24879	EPA 200.7	ICP/19291
60155988001	**316-112**	EPA 245.1	MERP/7852	EPA 245.1	MERC/7809
60155988001	**316-112**	EPA 245.1	MERP/7853	EPA 245.1	MERC/7810
60155988001	**316-112**	EPA 625	OEXT/41133	EPA 625	MSSV/13063
60155988001	**316-112**	EPA 624 Low	MSV/57162		
60155988002	**TRIP BLANK**	EPA 624 Low	MSV/57162		
60155988001	**316-112**	EPA 1664A	WET/44190		
60155988001	**316-112**	EPA 1664A	WET/44298		
60155988001	**316-112**	SM 2540D	WET/44197		
60155988001	**316-112**	SM 4500-H+B	WET/44206		
60155988001	**316-112**	SM 5210B	WET/44193	SM 5210B	WET/44264
60155988001	**316-112**	EPA 350.1	WETA/26803		
60155988001	**316-112**	EPA 410.4	WETA/26865		

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Sample Condition Upon Receipt

WO# : 60155988

60155988

Client Name: BARR

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

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 ☒ ZIPL

Thermometer Used: (T-112) T-194 Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 3.5

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: _____

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. 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	Add hno3 to 316-112 BP3N 5.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Add h2so3 to 316-112 BP3S 5.0/3.0
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed: S Lot # of added preservative: 12510 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Oct 10		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	3@5 VOA 316-112
		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: 10/24/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	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)	60155988
1	316-1125(DG9U) 2(AG4U) BP3U	OT	G	10/22/13	1130	BP3N 5#	BP3S 5.0		14	10	1	1	2	2(BP2U)		2(AG1U)		X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS
2	TRIP BLANK 2(DG9U)-TB								2	2															X					
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Paul Wagstaff / FEI	10-22-13	2:34 PM	Bonnette Martin	10-22-13	2:34pm				
SITE ADDRESS: BRIDGETON LF				Shandell McG / P&A	10/23	0200	3.5	Y	X	Y
13570 ST CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	John Powell					
SIGNATURE of SAMPLER:		DATE Signed: 10-22-13				

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Lenexa, KS 66219
(913)599-5665

November 01, 2013

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

RE: Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 24, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156091001	**316-113R**	Water	10/23/13 12:15	10/24/13 01:25
60156091002	**TRIP BLANK**	Water	10/23/13 12:15	10/24/13 01:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156091001	**316-113R**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60156091002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Sample: 316-113R **Lab ID: 60156091001** Collected: 10/23/13 12:15 Received: 10/24/13 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	**7890**	ug/L	150	2	10/24/13 16:15	10/25/13 18:54	7429-90-5	
Antimony	ND	ug/L	200	20	10/24/13 16:15	10/25/13 19:01	7440-36-0	D3
Arsenic	**933**	ug/L	20.0	2	10/24/13 16:15	10/25/13 18:54	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/24/13 16:15	10/25/13 18:57	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:54	7440-43-9	D3
Chromium	**386**	ug/L	25.0	5	10/24/13 16:15	10/25/13 18:57	7440-47-3	
Cobalt	**46.2**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:54	7440-48-4	
Copper	ND	ug/L	20.0	2	10/24/13 16:15	10/25/13 18:54	7440-50-8	
Iron	**1030000**	ug/L	1000	20	10/24/13 16:15	10/25/13 19:01	7439-89-6	
Lead	**122**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:54	7439-92-1	
Nickel	**167**	ug/L	10.0	2	10/24/13 16:15	10/25/13 18:54	7440-02-0	
Selenium	**98.2**	ug/L	75.0	5	10/24/13 16:15	10/25/13 18:57	7782-49-2	
Silver	ND	ug/L	14.0	2	10/24/13 16:15	10/25/13 18:54	7440-22-4	
Thallium	ND	ug/L	100	5	10/24/13 16:15	10/28/13 18:04	7440-28-0	D3
Zinc	**13100**	ug/L	1000	20	10/24/13 16:15	10/28/13 18:07	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4460**	ug/L	150	2	10/30/13 18:40	10/31/13 14:59	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/30/13 18:40	10/31/13 15:06	7440-36-0	D3
Arsenic, Dissolved	**837**	ug/L	20.0	2	10/30/13 18:40	10/31/13 14:59	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/30/13 18:40	10/31/13 14:59	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/30/13 18:40	10/31/13 14:59	7440-43-9	
Chromium, Dissolved	**283**	ug/L	25.0	5	10/30/13 18:40	10/31/13 15:45	7440-47-3	
Cobalt, Dissolved	**37.4**	ug/L	10.0	2	10/30/13 18:40	10/31/13 14:59	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/30/13 18:40	10/31/13 14:59	7440-50-8	
Iron, Dissolved	**853000**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:06	7439-89-6	
Lead, Dissolved	**56.1**	ug/L	10.0	2	10/30/13 18:40	10/31/13 14:59	7439-92-1	
Nickel, Dissolved	**126**	ug/L	10.0	2	10/30/13 18:40	10/31/13 14:59	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/30/13 18:40	10/31/13 15:45	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/30/13 18:40	10/31/13 14:59	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/30/13 18:40	10/31/13 15:45	7440-28-0	D3
Zinc, Dissolved	**11600**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:06	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**2.9**	ug/L	0.20	1	10/25/13 10:00	10/25/13 13:22	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	10/31/13 08:45	10/31/13 11:24	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/24/13 00:00	10/25/13 18:31	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Sample: 316-113R **Lab ID: 60156091001** Collected: 10/23/13 12:15 Received: 10/24/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	87-86-5	
Phenol	**7990**	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/24/13 00:00	10/25/13 18:31	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	100	%	33-120	2	10/24/13 00:00	10/25/13 18:31	4165-60-0	
2-Fluorobiphenyl (S)	71	%	39-120	2	10/24/13 00:00	10/25/13 18:31	321-60-8	
Terphenyl-d14 (S)	76	%	45-120	2	10/24/13 00:00	10/25/13 18:31	1718-51-0	
Phenol-d6 (S)	23	%	11-120	2	10/24/13 00:00	10/25/13 18:31	13127-88-3	
2-Fluorophenol (S)	32	%	17-120	2	10/24/13 00:00	10/25/13 18:31	367-12-4	
2,4,6-Tribromophenol (S)	79	%	39-120	2	10/24/13 00:00	10/25/13 18:31	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/24/13 17:04	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/24/13 17:04	75-27-4	
Bromoform	ND	ug/L	200	200		10/24/13 17:04	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/24/13 17:04	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/24/13 17:04	56-23-5	
Chloroethane	ND	ug/L	200	200		10/24/13 17:04	75-00-3	
Chloroform	ND	ug/L	200	200		10/24/13 17:04	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/24/13 17:04	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/24/13 17:04	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/24/13 17:04	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/24/13 17:04	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/24/13 17:04	100-41-4	
Methylene chloride	**394**	ug/L	200	200		10/24/13 17:04	75-09-2	C7
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/24/13 17:04	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/24/13 17:04	127-18-4	
Toluene	ND	ug/L	200	200		10/24/13 17:04	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/24/13 17:04	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/24/13 17:04	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/24/13 17:04	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/24/13 17:04	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/24/13 17:04	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	88	%	80-120	200		10/24/13 17:04	460-00-4	D3
Toluene-d8 (S)	112	%	80-120	200		10/24/13 17:04	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		10/24/13 17:04	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/24/13 17:04		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1030**	mg/L	5.0	1		10/28/13 08:39		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		10/30/13 08:06		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Sample: 316-113R **Lab ID: 60156091001** Collected: 10/23/13 12:15 Received: 10/24/13 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3680**	mg/L	5.0	1		10/25/13 15:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/28/13 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B	Preparation Method: SM 5210B						
BOD, 5 day	**38400**	mg/L	2.0	1	10/25/13 11:48	10/30/13 13:37		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**703**	mg/L	20.0	200		10/25/13 15:10	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**66200**	mg/L	10000	1000		10/29/13 13:58		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Sample: TRIP BLANK **Lab ID: 60156091002** Collected: 10/23/13 12:15 Received: 10/24/13 01:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/24/13 17:34	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/24/13 17:34	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/24/13 17:34	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/24/13 17:34	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/24/13 17:34	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/24/13 17:34	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/24/13 17:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/24/13 17:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/24/13 17:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/24/13 17:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/24/13 17:34	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/24/13 17:34	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/24/13 17:34	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/24/13 17:34	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/24/13 17:34	127-18-4	
Toluene	ND	ug/L	1.0	1		10/24/13 17:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/24/13 17:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/24/13 17:34	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/24/13 17:34	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/24/13 17:34	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/24/13 17:34	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	91	%	80-120	1		10/24/13 17:34	460-00-4	
Toluene-d8 (S)	120	%	80-120	1		10/24/13 17:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		10/24/13 17:34	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/24/13 17:34		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MERP/7857
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156091001

METHOD BLANK: 1278077 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/25/13 13:17	

LABORATORY CONTROL SAMPLE: 1278078

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: 1278079 1278080

Parameter	Units	60156157001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	4.8	5.0	96	99	70-130	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MERP/7873
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156091001

METHOD BLANK: 1281229 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/31/13 11:15	

LABORATORY CONTROL SAMPLE: 1281230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281231 1281232

Parameter	Units	60156288001 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	2.2	0.41	45	8	70-130	138	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MPRP/24861
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156091001

METHOD BLANK: 1277803 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/25/13 17:18	
Antimony	ug/L	ND	10.0	10/25/13 17:18	
Arsenic	ug/L	ND	10.0	10/25/13 17:18	
Beryllium	ug/L	ND	1.0	10/25/13 17:18	
Cadmium	ug/L	ND	5.0	10/25/13 17:18	
Chromium	ug/L	ND	5.0	10/25/13 17:18	
Cobalt	ug/L	ND	5.0	10/25/13 17:18	
Copper	ug/L	ND	10.0	10/25/13 17:18	
Iron	ug/L	76.6	50.0	10/25/13 17:18	
Lead	ug/L	ND	5.0	10/25/13 17:18	
Nickel	ug/L	ND	5.0	10/25/13 17:18	
Selenium	ug/L	ND	15.0	10/25/13 17:18	
Silver	ug/L	ND	7.0	10/25/13 17:18	
Thallium	ug/L	ND	20.0	10/28/13 17:45	
Zinc	ug/L	ND	50.0	10/28/13 17:45	

LABORATORY CONTROL SAMPLE: 1277804

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9800	98	85-115	
Antimony	ug/L	1000	988	99	85-115	
Arsenic	ug/L	1000	943	94	85-115	
Beryllium	ug/L	1000	981	98	85-115	
Cadmium	ug/L	1000	974	97	85-115	
Chromium	ug/L	1000	968	97	85-115	
Cobalt	ug/L	1000	993	99	85-115	
Copper	ug/L	1000	961	96	85-115	
Iron	ug/L	10000	9600	96	85-115	
Lead	ug/L	1000	986	99	85-115	
Nickel	ug/L	1000	974	97	85-115	
Selenium	ug/L	1000	941	94	85-115	
Silver	ug/L	500	463	93	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	990	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1277805 1277806

Parameter	Units	60155706002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	108	10000	10000	9710	9790	96	97	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1277805 1277806

Parameter	Units	60155706002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	998	1010	100	101	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	974	983	97	98	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	964	969	96	97	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	975	987	98	99	70-130	1	10	
Chromium	ug/L	ND	1000	1000	946	954	94	95	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	948	959	95	96	70-130	1	6	
Copper	ug/L	ND	1000	1000	965	972	96	97	70-130	1	11	
Iron	ug/L	82.7	10000	10000	9410	9480	93	94	70-130	1	10	
Lead	ug/L	ND	1000	1000	924	937	92	94	70-130	1	10	
Nickel	ug/L	ND	1000	1000	923	929	92	93	70-130	1	10	
Selenium	ug/L	76.5	1000	1000	1030	1040	95	96	70-130	1	10	
Silver	ug/L	ND	500	500	468	473	94	95	70-130	1	10	
Thallium	ug/L	ND	1000	1000	922	927	92	93	70-130	1	6	
Zinc	ug/L	ND	1000	1000	985	996	98	99	70-130	1	11	

MATRIX SPIKE SAMPLE: 1277807

Parameter	Units	60155863001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	174	10000	9770	96	70-130	
Antimony	ug/L	ND	1000	967	96	70-130	
Arsenic	ug/L	ND	1000	929	93	70-130	
Beryllium	ug/L	ND	1000	967	97	70-130	
Cadmium	ug/L	0.10 mg/L	1000	1050	95	70-130	
Chromium	ug/L	0.31 mg/L	1000	1250	93	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	0.18 mg/L	1000	1120	94	70-130	
Iron	ug/L	530	10000	9580	90	70-130	
Lead	ug/L	0.052 mg/L	1000	993	94	70-130	
Nickel	ug/L	1.0 mg/L	1000	1930	88	70-130	
Selenium	ug/L	ND	1000	915	92	70-130	
Silver	ug/L	0.023 mg/L	500	477	91	70-130	
Thallium	ug/L	ND	1000	972	97	70-130	
Zinc	ug/L	0.27 mg/L	1000	1240	97	70-130	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MPRP/24921
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156091001

METHOD BLANK: 1281108 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/31/13 14:50	
Antimony, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Arsenic, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Beryllium, Dissolved	ug/L	ND	1.0	10/31/13 14:50	
Cadmium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Chromium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Cobalt, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Copper, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Iron, Dissolved	ug/L	ND	50.0	10/31/13 14:50	
Lead, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Nickel, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Selenium, Dissolved	ug/L	ND	15.0	10/31/13 14:50	
Silver, Dissolved	ug/L	ND	7.0	10/31/13 14:50	
Thallium, Dissolved	ug/L	ND	20.0	10/31/13 14:50	
Zinc, Dissolved	ug/L	ND	50.0	10/31/13 14:50	

LABORATORY CONTROL SAMPLE: 1281109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1070	107	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	507	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 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	4170	10000	10000	14100	14200	99	100	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	1080	99	107	70-130	7	7	
Arsenic, Dissolved	ug/L	711	1000	1000	1860	1880	115	116	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	900	886	90	89	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1070	1070	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	257	1000	1000	1260	1230	100	98	70-130	2	10	
Cobalt, Dissolved	ug/L	36.1	1000	1000	935	930	90	89	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	70-130	1	11	
Iron, Dissolved	ug/L	862000	10000	10000	800000	865000	-620	28	70-130	8	10	M1
Lead, Dissolved	ug/L	55.8	1000	1000	908	893	85	84	70-130	2	10	
Nickel, Dissolved	ug/L	110	1000	1000	1010	1010	90	90	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1180	1150	118	115	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	567	568	111	111	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	808	776	81	78	70-130	4	6	
Zinc, Dissolved	ug/L	11900	1000	1000	12100	13100	22	117	70-130	8	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MSV/57217 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156091001, 60156091002

METHOD BLANK: 1277497 Matrix: Water
Associated Lab Samples: 60156091001, 60156091002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/24/13 12:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/24/13 12:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/24/13 12:11	
1,2-Dichloroethane	ug/L	ND	1.0	10/24/13 12:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/24/13 12:11	
Benzene	ug/L	ND	1.0	10/24/13 12:11	
Bromodichloromethane	ug/L	ND	1.0	10/24/13 12:11	
Bromoform	ug/L	ND	1.0	10/24/13 12:11	
Bromomethane	ug/L	ND	5.0	10/24/13 12:11	
Carbon tetrachloride	ug/L	ND	1.0	10/24/13 12:11	
Chloroethane	ug/L	ND	1.0	10/24/13 12:11	
Chloroform	ug/L	ND	1.0	10/24/13 12:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/24/13 12:11	
Ethylbenzene	ug/L	ND	1.0	10/24/13 12:11	
Methylene chloride	ug/L	ND	1.0	10/24/13 12:11	
Tetrachloroethene	ug/L	ND	1.0	10/24/13 12:11	
Toluene	ug/L	ND	1.0	10/24/13 12:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/24/13 12:11	
Trichloroethene	ug/L	ND	1.0	10/24/13 12:11	
Vinyl chloride	ug/L	ND	1.0	10/24/13 12:11	
Xylene (Total)	ug/L	ND	3.0	10/24/13 12:11	
1,2-Dichloroethane-d4 (S)	%	96	80-120	10/24/13 12:11	
4-Bromofluorobenzene (S)	%	90	80-120	10/24/13 12:11	
Toluene-d8 (S)	%	117	80-120	10/24/13 12:11	

LABORATORY CONTROL SAMPLE: 1277498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.3	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	16.6	83	59-138	
1,1,2-Trichloroethane	ug/L	20	17.8	89	69-127	
1,2-Dichloroethane	ug/L	20	19.6	98	71-129	
1,4-Dichlorobenzene	ug/L	20	17.5	87	68-124	
Benzene	ug/L	20	20.7	103	73-129	
Bromodichloromethane	ug/L	20	21.1	105	63-129	
Bromoform	ug/L	20	18.0	90	52-123	
Bromomethane	ug/L	20	8.6	43	10-160	
Carbon tetrachloride	ug/L	20	22.7	114	70-140	
Chloroethane	ug/L	20	13.6	68	42-160	
Chloroform	ug/L	20	19.7	99	60-120	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

LABORATORY CONTROL SAMPLE: 1277498

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	19.6	98	66-133	
Methylene chloride	ug/L	20	20.4	102	56-135	
Tetrachloroethene	ug/L	20	21.0	105	64-143	
Toluene	ug/L	20	23.7	118	70-130	
trans-1,2-Dichloroethene	ug/L	20	20.8	104	67-149	
Trichloroethene	ug/L	20	23.0	115	71-130	
Vinyl chloride	ug/L	20	12.1	60	41-160	
Xylene (Total)	ug/L	60	58.2	97	67-130	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			92	80-120	
Toluene-d8 (S)	%			114	80-120	

MATRIX SPIKE SAMPLE: 1277499

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4470	112	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2970	74	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3520	88	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	82	18-147	
Benzene	ug/L	ND	4000	4230	106	37-151	
Bromodichloromethane	ug/L	ND	4000	3990	100	35-155	
Bromoform	ug/L	ND	4000	3430	86	45-133	
Bromomethane	ug/L	ND	4000	1620	41	10-160	
Carbon tetrachloride	ug/L	ND	4000	4800	120	70-140	
Chloroethane	ug/L	ND	4000	2730	68	14-160	
Chloroform	ug/L	ND	4000	4250	106	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4530	113	19-160	
Ethylbenzene	ug/L	ND	4000	3900	97	37-154	
Methylene chloride	ug/L	394	4000	4330	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4250	106	64-148	
Toluene	ug/L	ND	4000	4540	114	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	4150	104	54-156	
Trichloroethene	ug/L	ND	4000	4540	113	71-157	
Vinyl chloride	ug/L	ND	4000	2410	60	10-160	
Xylene (Total)	ug/L	ND	12000	11500	96	12-153	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				89	80-120	
Toluene-d8 (S)	%				110	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: OEXT/41134 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60156091001

METHOD BLANK: 1277154 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/25/13 15:24	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/25/13 15:24	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/25/13 15:24	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/25/13 15:24	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/25/13 15:24	
Hexachloroethane	ug/L	ND	5.0	10/25/13 15:24	
Naphthalene	ug/L	ND	5.0	10/25/13 15:24	
Nitrobenzene	ug/L	ND	5.0	10/25/13 15:24	
Pentachlorophenol	ug/L	ND	5.0	10/25/13 15:24	
Phenol	ug/L	ND	5.0	10/25/13 15:24	
2,4,6-Tribromophenol (S)	%	88	39-120	10/25/13 15:24	
2-Fluorobiphenyl (S)	%	83	39-120	10/25/13 15:24	
2-Fluorophenol (S)	%	42	17-120	10/25/13 15:24	
Nitrobenzene-d5 (S)	%	79	33-120	10/25/13 15:24	
Phenol-d6 (S)	%	27	11-120	10/25/13 15:24	
Terphenyl-d14 (S)	%	93	45-120	10/25/13 15:24	

LABORATORY CONTROL SAMPLE: 1277155

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.5	83	46-120	
2,4,6-Trichlorophenol	ug/L	50	44.3	89	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	53.7	107	40-133	
Hexachloro-1,3-butadiene	ug/L	50	42.4	85	44-116	
Hexachlorocyclopentadiene	ug/L	100	67.8	68	24-120	
Hexachloroethane	ug/L	50	40.5	81	43-113	
Naphthalene	ug/L	50	41.7	83	48-120	
Nitrobenzene	ug/L	50	42.4	85	48-120	
Pentachlorophenol	ug/L	50	53.1	106	47-120	
Phenol	ug/L	50	15.1	30	16-112	
2,4,6-Tribromophenol (S)	%			92	39-120	
2-Fluorobiphenyl (S)	%			86	39-120	
2-Fluorophenol (S)	%			41	17-120	
Nitrobenzene-d5 (S)	%			82	33-120	
Phenol-d6 (S)	%			26	11-120	
Terphenyl-d14 (S)	%			93	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

MATRIX SPIKE SAMPLE: 1277156

Parameter	Units	60155917001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.73	50	31.4	63	44-120	
2,4,6-Trichlorophenol	ug/L	<1.5	50	31.6	63	50-120	
4,6-Dinitro-2-methylphenol	ug/L	<0.71	50	39.1	78	10-160	
Hexachloro-1,3-butadiene	ug/L	<0.98	50	31.7	63	39-116	
Hexachlorocyclopentadiene	ug/L	<2.1	100	48.4	48	11-120	
Hexachloroethane	ug/L	<0.62	50	29.3	59	40-113	
Naphthalene	ug/L	<0.58	50	31.4	63	45-120	
Nitrobenzene	ug/L	<0.65	50	31.6	63	38-120	
Pentachlorophenol	ug/L	<1.7	50	37.3	75	43-135	
Phenol	ug/L	<0.51	50	12.1	24	13-112	
2,4,6-Tribromophenol (S)	%				67	39-120	
2-Fluorobiphenyl (S)	%				61	39-120	
2-Fluorophenol (S)	%				32	17-120	
Nitrobenzene-d5 (S)	%				60	33-120	
Phenol-d6 (S)	%				21	11-120	
Terphenyl-d14 (S)	%				68	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WET/44239
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156091001

METHOD BLANK: 1279377 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/28/13 08:38	

LABORATORY CONTROL SAMPLE: 1279378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.6	104	78-114	

MATRIX SPIKE SAMPLE: 1279385

Parameter	Units	60155957001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	43.4	100	78-114	

SAMPLE DUPLICATE: 1279386

Parameter	Units	60156172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	638	803	23	18	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156091001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WET/44212 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156091001

METHOD BLANK: 1278065 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/25/13 13:13	

SAMPLE DUPLICATE: 1278066

Parameter	Units	60156169001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1278067

Parameter	Units	60155996002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	49.0	43.0	13	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WET/44230
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156091001

SAMPLE DUPLICATE: 1279058

Parameter	Units	60156019001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WET/44221
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156091001

METHOD BLANK: 1278146 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/30/13 13:28	

LABORATORY CONTROL SAMPLE: 1278147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	182	92	85-115	

SAMPLE DUPLICATE: 1278148

Parameter	Units	60156091001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	38400	36400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WETA/26832
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156091001

METHOD BLANK: 1278324 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/25/13 15:07	

LABORATORY CONTROL SAMPLE: 1278325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1278326

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	703	400	1100	99	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: WETA/26865 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156091001

METHOD BLANK: 1279604 Matrix: Water
Associated Lab Samples: 60156091001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/29/13 13:50	

LABORATORY CONTROL SAMPLE: 1279605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1279606

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64800	50000	117000	105	90-110	

MATRIX SPIKE SAMPLE: 1279607

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66200	50000	121000	110	90-110	

MATRIX SPIKE SAMPLE: 1279608

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	67100	50000	120000	107	90-110	

MATRIX SPIKE SAMPLE: 1279609

Parameter	Units	60156288001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66500	50000	111000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

C7	Analyte is a possible laboratory contaminant (not present in method blank).
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156091001	**316-113R**	EPA 200.7	MPRP/24861	EPA 200.7	ICP/19279
60156091001	**316-113R**	EPA 200.7	MPRP/24921	EPA 200.7	ICP/19312
60156091001	**316-113R**	EPA 245.1	MERP/7857	EPA 245.1	MERC/7814
60156091001	**316-113R**	EPA 245.1	MERP/7873	EPA 245.1	MERC/7830
60156091001	**316-113R**	EPA 625	OEXT/41134	EPA 625	MSSV/13066
60156091001	**316-113R**	EPA 624 Low	MSV/57217		
60156091002	**TRIP BLANK**	EPA 624 Low	MSV/57217		
60156091001	**316-113R**	EPA 1664A	WET/44239		
60156091001	**316-113R**	EPA 1664A	WET/44298		
60156091001	**316-113R**	SM 2540D	WET/44212		
60156091001	**316-113R**	SM 4500-H+B	WET/44230		
60156091001	**316-113R**	SM 5210B	WET/44221	SM 5210B	WET/44321
60156091001	**316-113R**	EPA 350.1	WETA/26832		
60156091001	**316-113R**	EPA 410.4	WETA/26865		

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Sample Condition Upon Receipt

WO#: 60156091

60156091

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ L-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-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.7

Date and initials of person examining contents: 10/24/13

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
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	initial ph for BP3N 4-5, added 2.5mL HNO3
Includes date/time/ID/analyses Matrix: WT		13. final ph 3-5. Initial ph BP3S 4-5, added 2.5mL final ph 2-5.
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 12510-10-9
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 060313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/24/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 **Of** 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

60156091

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	START TIME	END DATE	END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B		Residual Chlorine (Y/N)	
1	~~316-113RR~~ 316-113R 2AG3S	OT	G	10/23/13	1215	BP3u	2AP2u		14	10	(1)	1	1	5 DA9u					X	X	X	X	X	X	X	X	X	X	X	BP3N		LOG samples as OQS BP3S
2	TRIP BLANK 2DA9u								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	Paul Lhvsvahl / FEI	10-23-13	2:23pm	Kenyatta Garth	10-23-13	2:23pm				
SITE ADDRESS: BRIDGETON LF				E Brackett / Pace	10/24	0125	2.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: J Powell

DATE Signed: 10-23-13

78958

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

November 01, 2013

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

RE: Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 25, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156189001	**316-114**	Water	10/24/13 10:45	10/25/13 01:50
60156189002	**TRIP BLANK**	Water	10/24/13 10:45	10/25/13 01:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156189001	**316-114**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60156189002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Sample: 316-114 **Lab ID: 60156189001** Collected: 10/24/13 10:45 Received: 10/25/13 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**8800**	ug/L	150	2	10/29/13 12:00	10/29/13 18:27	7429-90-5	
Antimony	ND	ug/L	200	20	10/29/13 12:00	10/29/13 18:34	7440-36-0	D3
Arsenic	**922**	ug/L	50.0	5	10/29/13 12:00	10/29/13 18:31	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/29/13 12:00	10/29/13 18:31	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:31	7440-43-9	
Chromium	**344**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:31	7440-47-3	
Cobalt	**53.6**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:31	7440-48-4	
Copper	ND	ug/L	20.0	2	10/29/13 12:00	10/29/13 18:27	7440-50-8	D3
Iron	**1110000**	ug/L	1000	20	10/29/13 12:00	10/29/13 18:34	7439-89-6	
Lead	**157**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:31	7439-92-1	
Nickel	**137**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:31	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/29/13 12:00	10/29/13 18:31	7782-49-2	
Silver	ND	ug/L	14.0	2	10/29/13 12:00	10/29/13 18:27	7440-22-4	
Thallium	ND	ug/L	100	5	10/29/13 12:00	10/29/13 18:31	7440-28-0	
Zinc	**13800**	ug/L	1000	20	10/29/13 12:00	10/29/13 18:34	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4170**	ug/L	150	2	10/30/13 18:40	10/31/13 15:09	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/30/13 18:40	10/31/13 15:16	7440-36-0	D3
Arsenic, Dissolved	**711**	ug/L	20.0	2	10/30/13 18:40	10/31/13 15:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/30/13 18:40	10/31/13 15:12	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:09	7440-43-9	D3
Chromium, Dissolved	**257**	ug/L	25.0	5	10/30/13 18:40	10/31/13 15:12	7440-47-3	
Cobalt, Dissolved	**36.1**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:09	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/30/13 18:40	10/31/13 15:09	7440-50-8	
Iron, Dissolved	**862000**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:16	7439-89-6	M1
Lead, Dissolved	**55.8**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:09	7439-92-1	
Nickel, Dissolved	**110**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/30/13 18:40	10/31/13 15:12	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/30/13 18:40	10/31/13 15:09	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/30/13 18:40	10/31/13 15:12	7440-28-0	
Zinc, Dissolved	**11900**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:16	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**15.3**	ug/L	0.40	2	10/28/13 10:00	10/28/13 15:53	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	10/31/13 08:45	10/31/13 11:26	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/26/13 00:00	10/27/13 12:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Sample: 316-114 **Lab ID: 60156189001** Collected: 10/24/13 10:45 Received: 10/25/13 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	87-86-5	
Phenol	**5540**	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	92	%	33-120	2	10/26/13 00:00	10/27/13 12:22	4165-60-0	
2-Fluorobiphenyl (S)	69	%	39-120	2	10/26/13 00:00	10/27/13 12:22	321-60-8	
Terphenyl-d14 (S)	73	%	45-120	2	10/26/13 00:00	10/27/13 12:22	1718-51-0	
Phenol-d6 (S)	27	%	11-120	2	10/26/13 00:00	10/27/13 12:22	13127-88-3	
2-Fluorophenol (S)	26	%	17-120	2	10/26/13 00:00	10/27/13 12:22	367-12-4	
2,4,6-Tribromophenol (S)	76	%	39-120	2	10/26/13 00:00	10/27/13 12:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/31/13 14:08	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/31/13 14:08	75-27-4	
Bromoform	ND	ug/L	200	200		10/31/13 14:08	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/31/13 14:08	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/31/13 14:08	56-23-5	
Chloroethane	ND	ug/L	200	200		10/31/13 14:08	75-00-3	
Chloroform	ND	ug/L	200	200		10/31/13 14:08	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/31/13 14:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/31/13 14:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 14:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 14:08	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/31/13 14:08	100-41-4	
Methylene chloride	**310**	ug/L	200	200		10/31/13 14:08	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/31/13 14:08	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/31/13 14:08	127-18-4	
Toluene	ND	ug/L	200	200		10/31/13 14:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/31/13 14:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/31/13 14:08	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/31/13 14:08	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/31/13 14:08	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/31/13 14:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		10/31/13 14:08	460-00-4	D3
Toluene-d8 (S)	101	%	80-120	200		10/31/13 14:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		10/31/13 14:08	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/31/13 14:08		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1020**	mg/L	5.0	1		10/28/13 08:39		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.6**	mg/L	5.0	1		10/30/13 08:07		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Sample: 316-114 **Lab ID: 60156189001** Collected: 10/24/13 10:45 Received: 10/25/13 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4660**	mg/L	5.0	1		10/28/13 09:58		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		10/28/13 10:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30800**	mg/L	2.0	1	10/25/13 13:09	10/30/13 14:23		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**745**	mg/L	20.0	200		10/25/13 15:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**67100**	mg/L	10000	1000		10/29/13 13:59		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Sample: TRIP BLANK **Lab ID: 60156189002** Collected: 10/24/13 10:45 Received: 10/25/13 01:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 14:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 14:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 14:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 14:23	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 14:23	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 14:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 14:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 14:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 14:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 14:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 14:23	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 14:23	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 14:23	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 14:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 14:23	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 14:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 14:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 14:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 14:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 14:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 14:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		10/31/13 14:23	460-00-4	
Toluene-d8 (S)	103	%	80-120	1		10/31/13 14:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		10/31/13 14:23	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 14:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: MERP/7861
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156189001

METHOD BLANK: 1279409 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/28/13 13:42	

LABORATORY CONTROL SAMPLE: 1279410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279411 1279412

Parameter	Units	60156283001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.2	5.1	103	101	70-130	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: MERP/7873
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156189001

METHOD BLANK: 1281229 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/31/13 11:15	

LABORATORY CONTROL SAMPLE: 1281230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281231 1281232

Parameter	Units	60156288001 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	2.2	0.41	45	8	70-130	138	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: MPRP/24892
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156189001

METHOD BLANK: 1280057 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/29/13 18:15	
Antimony	ug/L	ND	10.0	10/29/13 18:15	
Arsenic	ug/L	ND	10.0	10/29/13 18:15	
Beryllium	ug/L	ND	1.0	10/29/13 18:15	
Cadmium	ug/L	ND	5.0	10/29/13 18:15	
Chromium	ug/L	ND	5.0	10/29/13 18:15	
Cobalt	ug/L	ND	5.0	10/29/13 18:15	
Copper	ug/L	ND	10.0	10/29/13 18:15	
Iron	ug/L	433	50.0	10/29/13 18:15	
Lead	ug/L	ND	5.0	10/29/13 18:15	
Nickel	ug/L	ND	5.0	10/29/13 18:15	
Selenium	ug/L	ND	15.0	10/29/13 18:15	
Silver	ug/L	ND	7.0	10/29/13 18:15	
Thallium	ug/L	ND	20.0	10/29/13 18:15	
Zinc	ug/L	ND	50.0	10/29/13 18:15	

LABORATORY CONTROL SAMPLE: 1280058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9170	92	85-115	
Antimony	ug/L	1000	928	93	85-115	
Arsenic	ug/L	1000	876	88	85-115	
Beryllium	ug/L	1000	909	91	85-115	
Cadmium	ug/L	1000	908	91	85-115	
Chromium	ug/L	1000	901	90	85-115	
Cobalt	ug/L	1000	931	93	85-115	
Copper	ug/L	1000	898	90	85-115	
Iron	ug/L	10000	8970	90	85-115	
Lead	ug/L	1000	944	94	85-115	
Nickel	ug/L	1000	945	95	85-115	
Selenium	ug/L	1000	911	91	85-115	
Silver	ug/L	500	453	91	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	904	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8790	10000	10000	21900	21800	131	130	70-130	0	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	901	912	84	85	70-130	1	7	
Arsenic	ug/L	821	1000	1000	1920	1940	110	111	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	941	944	94	94	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	10	
Chromium	ug/L	326	1000	1000	1290	1310	96	98	70-130	2	10	
Cobalt	ug/L	52.9	1000	1000	1020	1010	96	96	70-130	0	6	
Copper	ug/L	ND	1000	1000	1050	1010	103	100	70-130	3	11	
Iron	ug/L	1070000	10000	10000	1110000	1100000	338	266	70-130	1	10	M1
Lead	ug/L	175	1000	1000	1070	1070	89	89	70-130	0	10	
Nickel	ug/L	125	1000	1000	1090	1090	96	96	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1100	1090	110	109	70-130	1	10	
Silver	ug/L	ND	500	500	114	89.6	22	17	70-130	24	10	M1,R1
Thallium	ug/L	ND	1000	1000	776	762	78	76	70-130	2	6	
Zinc	ug/L	13300	1000	1000	13900	14000	53	65	70-130	1	11	M1

MATRIX SPIKE SAMPLE: 1280061

Parameter	Units	60155898003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	989	99	70-130	
Beryllium	ug/L	ND	1000	965	97	70-130	
Cadmium	ug/L	ND	1000	982	98	70-130	
Chromium	ug/L	ND	1000	960	96	70-130	
Cobalt	ug/L	ND	1000	967	97	70-130	
Copper	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	360	10000	9700	93	70-130	
Lead	ug/L	ND	1000	948	95	70-130	
Nickel	ug/L	ND	1000	976	97	70-130	
Selenium	ug/L	ND	1000	990	99	70-130	
Silver	ug/L	ND	500	495	99	70-130	
Thallium	ug/L	ND	1000	913	91	70-130	
Zinc	ug/L	ND	1000	982	96	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: MPRP/24921
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156189001

METHOD BLANK: 1281108 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/31/13 14:50	
Antimony, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Arsenic, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Beryllium, Dissolved	ug/L	ND	1.0	10/31/13 14:50	
Cadmium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Chromium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Cobalt, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Copper, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Iron, Dissolved	ug/L	ND	50.0	10/31/13 14:50	
Lead, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Nickel, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Selenium, Dissolved	ug/L	ND	15.0	10/31/13 14:50	
Silver, Dissolved	ug/L	ND	7.0	10/31/13 14:50	
Thallium, Dissolved	ug/L	ND	20.0	10/31/13 14:50	
Zinc, Dissolved	ug/L	ND	50.0	10/31/13 14:50	

LABORATORY CONTROL SAMPLE: 1281109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1070	107	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	507	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 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	4170	10000	10000	14100	14200	99	100	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	1080	99	107	70-130	7	7	
Arsenic, Dissolved	ug/L	711	1000	1000	1860	1880	115	116	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	900	886	90	89	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1070	1070	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	257	1000	1000	1260	1230	100	98	70-130	2	10	
Cobalt, Dissolved	ug/L	36.1	1000	1000	935	930	90	89	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	70-130	1	11	
Iron, Dissolved	ug/L	862000	10000	10000	800000	865000	-620	28	70-130	8	10	M1
Lead, Dissolved	ug/L	55.8	1000	1000	908	893	85	84	70-130	2	10	
Nickel, Dissolved	ug/L	110	1000	1000	1010	1010	90	90	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1180	1150	118	115	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	567	568	111	111	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	808	776	81	78	70-130	4	6	
Zinc, Dissolved	ug/L	11900	1000	1000	12100	13100	22	117	70-130	8	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: MSV/57371 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156189001, 60156189002

METHOD BLANK: 1281397 Matrix: Water
Associated Lab Samples: 60156189001, 60156189002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: OEXT/41183
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156189001

METHOD BLANK: 1278979 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/27/13 10:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/27/13 10:38	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/27/13 10:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/27/13 10:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/27/13 10:38	
Hexachloroethane	ug/L	ND	5.0	10/27/13 10:38	
Naphthalene	ug/L	ND	5.0	10/27/13 10:38	
Nitrobenzene	ug/L	ND	5.0	10/27/13 10:38	
Pentachlorophenol	ug/L	ND	5.0	10/27/13 10:38	
Phenol	ug/L	ND	5.0	10/27/13 10:38	
2,4,6-Tribromophenol (S)	%	72	39-120	10/27/13 10:38	
2-Fluorobiphenyl (S)	%	74	39-120	10/27/13 10:38	
2-Fluorophenol (S)	%	36	17-120	10/27/13 10:38	
Nitrobenzene-d5 (S)	%	71	33-120	10/27/13 10:38	
Phenol-d6 (S)	%	23	11-120	10/27/13 10:38	
Terphenyl-d14 (S)	%	80	45-120	10/27/13 10:38	

LABORATORY CONTROL SAMPLE: 1278980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.1	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.6	83	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.4	103	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.6	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.3	65	24-120	
Hexachloroethane	ug/L	50	39.5	79	43-113	
Naphthalene	ug/L	50	40.1	80	48-120	
Nitrobenzene	ug/L	50	40.5	81	48-120	
Pentachlorophenol	ug/L	50	47.5	95	47-120	
Phenol	ug/L	50	13.2	26	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

MATRIX SPIKE SAMPLE: 1278981

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3940	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4180	84	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4870J	97	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3670	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6320	63	11-120	
Hexachloroethane	ug/L	ND	5000	3720	74	40-113	
Naphthalene	ug/L	ND	5000	4450	81	45-120	
Nitrobenzene	ug/L	ND	5000	4030	81	38-120	
Pentachlorophenol	ug/L	ND	5000	5040	101	43-135	
Phenol	ug/L	5540	5000	8440	58	13-112	
2,4,6-Tribromophenol (S)	%				87	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				30	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				81	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WET/44239 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156189001

METHOD BLANK: 1279377 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/28/13 08:38	

LABORATORY CONTROL SAMPLE: 1279378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.6	104	78-114	

MATRIX SPIKE SAMPLE: 1279385

Parameter	Units	60155957001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	43.4	100	78-114	

SAMPLE DUPLICATE: 1279386

Parameter	Units	60156172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	638	803	23	18	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156189001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WET/44249 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156189001

METHOD BLANK: 1279463 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/28/13 09:51	

SAMPLE DUPLICATE: 1279464

Parameter	Units	60156196001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	11.0	9.0	20	25	

SAMPLE DUPLICATE: 1279465

Parameter	Units	60156175001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	16.0	17.0	6	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WET/44230
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156189001

SAMPLE DUPLICATE: 1279058

Parameter	Units	60156019001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.8	6.8	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WET/44221
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156189001

METHOD BLANK: 1278146 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/30/13 13:28	

LABORATORY CONTROL SAMPLE: 1278147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	182	92	85-115	

SAMPLE DUPLICATE: 1278148

Parameter	Units	60156091001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	38400	36400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WETA/26832
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156189001

METHOD BLANK: 1278324 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/25/13 15:07	

LABORATORY CONTROL SAMPLE: 1278325

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1278326

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	703	400	1100	99	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: WETA/26865 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156189001

METHOD BLANK: 1279604 Matrix: Water
Associated Lab Samples: 60156189001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/29/13 13:50	

LABORATORY CONTROL SAMPLE: 1279605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1279606

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64800	50000	117000	105	90-110	

MATRIX SPIKE SAMPLE: 1279607

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66200	50000	121000	110	90-110	

MATRIX SPIKE SAMPLE: 1279608

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	67100	50000	120000	107	90-110	

MATRIX SPIKE SAMPLE: 1279609

Parameter	Units	60156288001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66500	50000	111000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156189001	**316-114**	EPA 200.7	MPRP/24892	EPA 200.7	ICP/19298
60156189001	**316-114**	EPA 200.7	MPRP/24921	EPA 200.7	ICP/19312
60156189001	**316-114**	EPA 245.1	MERP/7861	EPA 245.1	MERC/7818
60156189001	**316-114**	EPA 245.1	MERP/7873	EPA 245.1	MERC/7830
60156189001	**316-114**	EPA 625	OEXT/41183	EPA 625	MSSV/13070
60156189001	**316-114**	EPA 624 Low	MSV/57371		
60156189002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156189001	**316-114**	EPA 1664A	WET/44239		
60156189001	**316-114**	EPA 1664A	WET/44298		
60156189001	**316-114**	SM 2540D	WET/44249		
60156189001	**316-114**	SM 4500-H+B	WET/44230		
60156189001	**316-114**	SM 5210B	WET/44221	SM 5210B	WET/44321
60156189001	**316-114**	EPA 350.1	WETA/26832		
60156189001	**316-114**	EPA 410.4	WETA/26865		

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Sample Condition Upon Receipt

WO#: 60156189

60156189

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ 2 Roads

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

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

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

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.(

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/25/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
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	BP3N initial ph 4-5, added 2.5 mL Final 3-5 BP3S initial ph 4.0, added 2.5 mL final 2-5
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): 060313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Rev for AKB Date: 10/25

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: JANET ROLLEN
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	60156189
1	316-114 BP3N[3.5], BP3S[2.5], 2BP2U, BP3U	OT	G	10/24/13	1045	2 AG 3S			14	10	(3)	1	2	2 AG4U					X	X	X	X	X	X	X	X	X	X	X	5DG3U	LOG samples as OQS (W1)
2	TRIP BLANK								2	2																X		2	DG9U		(TB) W2
3																															
4																															
5																															
6																															
7																															METALS LIST total & LF Dis:
8																															Al,Sb,As,Be,Cd,Cr,
9																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
10																															and Mercury
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Crock/Feezor Engin.	10/24/13	1421	Bernadette Heath	10/24/13	1421				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pasi	10/25	0150	1.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: John Powell DATE Signed: 10-24-13

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

November 01, 2013

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

RE: Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 26, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156288001	**316-115R**	Water	10/25/13 10:10	10/26/13 00:30
60156288002	**TRIP BLANK**	Water	10/25/13 08:00	10/26/13 00:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156288001	**316-115R**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60156288002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Sample: 316-115R **Lab ID: 60156288001** Collected: 10/25/13 10:10 Received: 10/26/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**8740**	ug/L	150	2	10/29/13 12:00	10/29/13 18:53	7429-90-5	
Antimony	ND	ug/L	200	20	10/29/13 12:00	10/29/13 18:44	7440-36-0	D3
Arsenic	**818**	ug/L	50.0	5	10/29/13 12:00	10/29/13 18:57	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/29/13 12:00	10/29/13 18:57	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:57	7440-43-9	
Chromium	**318**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:57	7440-47-3	
Cobalt	**53.4**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:57	7440-48-4	
Copper	ND	ug/L	20.0	2	10/29/13 12:00	10/29/13 18:53	7440-50-8	D3
Iron	**1050000**	ug/L	1000	20	10/29/13 12:00	10/29/13 18:44	7439-89-6	
Lead	**158**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:57	7439-92-1	
Nickel	**121**	ug/L	25.0	5	10/29/13 12:00	10/29/13 18:57	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/29/13 12:00	10/29/13 18:57	7782-49-2	
Silver	ND	ug/L	14.0	2	10/29/13 12:00	10/29/13 18:53	7440-22-4	
Thallium	ND	ug/L	100	5	10/29/13 12:00	10/29/13 18:57	7440-28-0	
Zinc	**12800**	ug/L	1000	20	10/29/13 12:00	10/29/13 18:44	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3680**	ug/L	150	2	10/30/13 18:40	10/31/13 15:48	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/30/13 18:40	10/31/13 15:55	7440-36-0	D3
Arsenic, Dissolved	**637**	ug/L	20.0	2	10/30/13 18:40	10/31/13 15:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	10/30/13 18:40	10/31/13 15:52	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:48	7440-43-9	D3
Chromium, Dissolved	**247**	ug/L	25.0	5	10/30/13 18:40	10/31/13 15:52	7440-47-3	
Cobalt, Dissolved	**33.4**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:48	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/30/13 18:40	10/31/13 15:48	7440-50-8	
Iron, Dissolved	**743000**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:55	7439-89-6	
Lead, Dissolved	**60.3**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:48	7439-92-1	
Nickel, Dissolved	**95.9**	ug/L	10.0	2	10/30/13 18:40	10/31/13 15:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/30/13 18:40	10/31/13 15:52	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/30/13 18:40	10/31/13 15:48	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/30/13 18:40	10/31/13 15:52	7440-28-0	
Zinc, Dissolved	**10100**	ug/L	1000	20	10/30/13 18:40	10/31/13 15:55	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.54**	ug/L	0.20	1	10/28/13 10:00	10/28/13 13:52	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	10/31/13 08:45	10/31/13 11:29	7439-97-6	M1,R1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/26/13 00:00	10/27/13 12:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Sample: 316-115R **Lab ID: 60156288001** Collected: 10/25/13 10:10 Received: 10/26/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	87-86-5	
Phenol	**10200**	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/26/13 00:00	10/27/13 12:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	115	%	33-120	2	10/26/13 00:00	10/27/13 12:43	4165-60-0	
2-Fluorobiphenyl (S)	80	%	39-120	2	10/26/13 00:00	10/27/13 12:43	321-60-8	
Terphenyl-d14 (S)	86	%	45-120	2	10/26/13 00:00	10/27/13 12:43	1718-51-0	
Phenol-d6 (S)	44	%	11-120	2	10/26/13 00:00	10/27/13 12:43	13127-88-3	
2-Fluorophenol (S)	41	%	17-120	2	10/26/13 00:00	10/27/13 12:43	367-12-4	
2,4,6-Tribromophenol (S)	89	%	39-120	2	10/26/13 00:00	10/27/13 12:43	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/31/13 14:38	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/31/13 14:38	75-27-4	
Bromoform	ND	ug/L	200	200		10/31/13 14:38	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/31/13 14:38	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/31/13 14:38	56-23-5	
Chloroethane	ND	ug/L	200	200		10/31/13 14:38	75-00-3	
Chloroform	ND	ug/L	200	200		10/31/13 14:38	67-66-3	
1,4-Dichlorobenzene	**221**	ug/L	200	200		10/31/13 14:38	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/31/13 14:38	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 14:38	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 14:38	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/31/13 14:38	100-41-4	
Methylene chloride	**265**	ug/L	200	200		10/31/13 14:38	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/31/13 14:38	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/31/13 14:38	127-18-4	
Toluene	ND	ug/L	200	200		10/31/13 14:38	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/31/13 14:38	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/31/13 14:38	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/31/13 14:38	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/31/13 14:38	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/31/13 14:38	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		10/31/13 14:38	460-00-4	D3
Toluene-d8 (S)	92	%	80-120	200		10/31/13 14:38	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	200		10/31/13 14:38	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/31/13 14:38		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**910**	mg/L	5.0	1		10/28/13 08:40		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.2**	mg/L	5.0	1		10/30/13 08:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Sample: 316-115R **Lab ID: 60156288001** Collected: 10/25/13 10:10 Received: 10/26/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4020**	mg/L	5.0	1		10/29/13 10:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/28/13 10:15		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**25300**	mg/L	2.0	1	10/26/13 10:46	10/31/13 10:44		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**773**	mg/L	20.0	200		10/31/13 15:52	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**66500**	mg/L	10000	1000		10/29/13 14:00		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Sample: TRIP BLANK **Lab ID: 60156288002** Collected: 10/25/13 08:00 Received: 10/26/13 00:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 14:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 14:53	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 14:53	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 14:53	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 14:53	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 14:53	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 14:53	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 14:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 14:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 14:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 14:53	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 14:53	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 14:53	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 14:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 14:53	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 14:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 14:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 14:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 14:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 14:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 14:53	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		10/31/13 14:53	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		10/31/13 14:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		10/31/13 14:53	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 14:53		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MERP/7861
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156288001

METHOD BLANK: 1279409 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/28/13 13:42	

LABORATORY CONTROL SAMPLE: 1279410

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.2	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279411 1279412

Parameter	Units	60156283001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.2	5.1	103	101	70-130	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MERP/7873
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156288001

METHOD BLANK: 1281229 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	10/31/13 11:15	

LABORATORY CONTROL SAMPLE: 1281230

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281231 1281232

Parameter	Units	60156288001 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	2.2	0.41	45	8	70-130	138	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MPRP/24892
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156288001

METHOD BLANK: 1280057 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/29/13 18:15	
Antimony	ug/L	ND	10.0	10/29/13 18:15	
Arsenic	ug/L	ND	10.0	10/29/13 18:15	
Beryllium	ug/L	ND	1.0	10/29/13 18:15	
Cadmium	ug/L	ND	5.0	10/29/13 18:15	
Chromium	ug/L	ND	5.0	10/29/13 18:15	
Cobalt	ug/L	ND	5.0	10/29/13 18:15	
Copper	ug/L	ND	10.0	10/29/13 18:15	
Iron	ug/L	433	50.0	10/29/13 18:15	
Lead	ug/L	ND	5.0	10/29/13 18:15	
Nickel	ug/L	ND	5.0	10/29/13 18:15	
Selenium	ug/L	ND	15.0	10/29/13 18:15	
Silver	ug/L	ND	7.0	10/29/13 18:15	
Thallium	ug/L	ND	20.0	10/29/13 18:15	
Zinc	ug/L	ND	50.0	10/29/13 18:15	

LABORATORY CONTROL SAMPLE: 1280058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9170	92	85-115	
Antimony	ug/L	1000	928	93	85-115	
Arsenic	ug/L	1000	876	88	85-115	
Beryllium	ug/L	1000	909	91	85-115	
Cadmium	ug/L	1000	908	91	85-115	
Chromium	ug/L	1000	901	90	85-115	
Cobalt	ug/L	1000	931	93	85-115	
Copper	ug/L	1000	898	90	85-115	
Iron	ug/L	10000	8970	90	85-115	
Lead	ug/L	1000	944	94	85-115	
Nickel	ug/L	1000	945	95	85-115	
Selenium	ug/L	1000	911	91	85-115	
Silver	ug/L	500	453	91	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	904	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8790	10000	10000	21900	21800	131	130	70-130	0	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	901	912	84	85	70-130	1	7	
Arsenic	ug/L	821	1000	1000	1920	1940	110	111	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	941	944	94	94	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	10	
Chromium	ug/L	326	1000	1000	1290	1310	96	98	70-130	2	10	
Cobalt	ug/L	52.9	1000	1000	1020	1010	96	96	70-130	0	6	
Copper	ug/L	ND	1000	1000	1050	1010	103	100	70-130	3	11	
Iron	ug/L	1070000	10000	10000	1110000	1100000	338	266	70-130	1	10	M1
Lead	ug/L	175	1000	1000	1070	1070	89	89	70-130	0	10	
Nickel	ug/L	125	1000	1000	1090	1090	96	96	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1100	1090	110	109	70-130	1	10	
Silver	ug/L	ND	500	500	114	89.6	22	17	70-130	24	10	M1,R1
Thallium	ug/L	ND	1000	1000	776	762	78	76	70-130	2	6	
Zinc	ug/L	13300	1000	1000	13900	14000	53	65	70-130	1	11	M1

MATRIX SPIKE SAMPLE: 1280061

Parameter	Units	60155898003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	989	99	70-130	
Beryllium	ug/L	ND	1000	965	97	70-130	
Cadmium	ug/L	ND	1000	982	98	70-130	
Chromium	ug/L	ND	1000	960	96	70-130	
Cobalt	ug/L	ND	1000	967	97	70-130	
Copper	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	360	10000	9700	93	70-130	
Lead	ug/L	ND	1000	948	95	70-130	
Nickel	ug/L	ND	1000	976	97	70-130	
Selenium	ug/L	ND	1000	990	99	70-130	
Silver	ug/L	ND	500	495	99	70-130	
Thallium	ug/L	ND	1000	913	91	70-130	
Zinc	ug/L	ND	1000	982	96	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MPRP/24921
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156288001

METHOD BLANK: 1281108 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	10/31/13 14:50	
Antimony, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Arsenic, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Beryllium, Dissolved	ug/L	ND	1.0	10/31/13 14:50	
Cadmium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Chromium, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Cobalt, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Copper, Dissolved	ug/L	ND	10.0	10/31/13 14:50	
Iron, Dissolved	ug/L	ND	50.0	10/31/13 14:50	
Lead, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Nickel, Dissolved	ug/L	ND	5.0	10/31/13 14:50	
Selenium, Dissolved	ug/L	ND	15.0	10/31/13 14:50	
Silver, Dissolved	ug/L	ND	7.0	10/31/13 14:50	
Thallium, Dissolved	ug/L	ND	20.0	10/31/13 14:50	
Zinc, Dissolved	ug/L	ND	50.0	10/31/13 14:50	

LABORATORY CONTROL SAMPLE: 1281109

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1040	104	85-115	
Arsenic, Dissolved	ug/L	1000	993	99	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1020	102	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1050	105	85-115	
Copper, Dissolved	ug/L	1000	1040	104	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1070	107	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	507	101	85-115	
Thallium, Dissolved	ug/L	1000	1070	107	85-115	
Zinc, Dissolved	ug/L	1000	1040	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 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	4170	10000	10000	14100	14200	99	100	70-130	1	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1281110 1281111

Parameter	Units	60156189001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1010	1080	99	107	70-130	7	7	
Arsenic, Dissolved	ug/L	711	1000	1000	1860	1880	115	116	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	900	886	90	89	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1070	1070	107	107	70-130	0	10	
Chromium, Dissolved	ug/L	257	1000	1000	1260	1230	100	98	70-130	2	10	
Cobalt, Dissolved	ug/L	36.1	1000	1000	935	930	90	89	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1060	1050	106	105	70-130	1	11	
Iron, Dissolved	ug/L	862000	10000	10000	800000	865000	-620	28	70-130	8	10	M1
Lead, Dissolved	ug/L	55.8	1000	1000	908	893	85	84	70-130	2	10	
Nickel, Dissolved	ug/L	110	1000	1000	1010	1010	90	90	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1180	1150	118	115	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	567	568	111	111	70-130	0	10	
Thallium, Dissolved	ug/L	ND	1000	1000	808	776	81	78	70-130	4	6	
Zinc, Dissolved	ug/L	11900	1000	1000	12100	13100	22	117	70-130	8	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MSV/57371 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156288001, 60156288002

METHOD BLANK: 1281397 Matrix: Water
Associated Lab Samples: 60156288001, 60156288002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: OEXT/41183
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156288001

METHOD BLANK: 1278979 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/27/13 10:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/27/13 10:38	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/27/13 10:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/27/13 10:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/27/13 10:38	
Hexachloroethane	ug/L	ND	5.0	10/27/13 10:38	
Naphthalene	ug/L	ND	5.0	10/27/13 10:38	
Nitrobenzene	ug/L	ND	5.0	10/27/13 10:38	
Pentachlorophenol	ug/L	ND	5.0	10/27/13 10:38	
Phenol	ug/L	ND	5.0	10/27/13 10:38	
2,4,6-Tribromophenol (S)	%	72	39-120	10/27/13 10:38	
2-Fluorobiphenyl (S)	%	74	39-120	10/27/13 10:38	
2-Fluorophenol (S)	%	36	17-120	10/27/13 10:38	
Nitrobenzene-d5 (S)	%	71	33-120	10/27/13 10:38	
Phenol-d6 (S)	%	23	11-120	10/27/13 10:38	
Terphenyl-d14 (S)	%	80	45-120	10/27/13 10:38	

LABORATORY CONTROL SAMPLE: 1278980

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.1	80	46-120	
2,4,6-Trichlorophenol	ug/L	50	41.6	83	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.4	103	40-133	
Hexachloro-1,3-butadiene	ug/L	50	39.6	79	44-116	
Hexachlorocyclopentadiene	ug/L	100	65.3	65	24-120	
Hexachloroethane	ug/L	50	39.5	79	43-113	
Naphthalene	ug/L	50	40.1	80	48-120	
Nitrobenzene	ug/L	50	40.5	81	48-120	
Pentachlorophenol	ug/L	50	47.5	95	47-120	
Phenol	ug/L	50	13.2	26	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			84	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			78	33-120	
Phenol-d6 (S)	%			23	11-120	
Terphenyl-d14 (S)	%			89	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

MATRIX SPIKE SAMPLE: 1278981

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3940	79	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4180	84	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4870J	97	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3670	73	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	6320	63	11-120	
Hexachloroethane	ug/L	ND	5000	3720	74	40-113	
Naphthalene	ug/L	ND	5000	4450	81	45-120	
Nitrobenzene	ug/L	ND	5000	4030	81	38-120	
Pentachlorophenol	ug/L	ND	5000	5040	101	43-135	
Phenol	ug/L	5540	5000	8440	58	13-112	
2,4,6-Tribromophenol (S)	%				87	39-120	
2-Fluorobiphenyl (S)	%				76	39-120	
2-Fluorophenol (S)	%				30	17-120	
Nitrobenzene-d5 (S)	%				116	33-120	
Phenol-d6 (S)	%				32	11-120	
Terphenyl-d14 (S)	%				81	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WET/44239 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156288001

METHOD BLANK: 1279377 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/28/13 08:38	

LABORATORY CONTROL SAMPLE: 1279378

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.6	104	78-114	

MATRIX SPIKE SAMPLE: 1279385

Parameter	Units	60155957001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.1	43.4	100	78-114	

SAMPLE DUPLICATE: 1279386

Parameter	Units	60156172001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	638	803	23	18	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156288001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WET/44268 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156288001

METHOD BLANK: 1279828 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/29/13 10:21	

SAMPLE DUPLICATE: 1279829

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4660	4600	1	25	

SAMPLE DUPLICATE: 1279830

Parameter	Units	60156323001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	115	108	6	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WET/44231
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156288001

SAMPLE DUPLICATE: 1279059

Parameter	Units	60156214001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	9.5	9.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WET/44233
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156288001

METHOD BLANK: 1279066 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	10/31/13 10:34	

LABORATORY CONTROL SAMPLE: 1279067

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1279068

Parameter	Units	60156258001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	894	860	4	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156288001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: WETA/26865 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156288001

METHOD BLANK: 1279604 Matrix: Water
Associated Lab Samples: 60156288001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/29/13 13:50	

LABORATORY CONTROL SAMPLE: 1279605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	52.1	104	90-110	

MATRIX SPIKE SAMPLE: 1279606

Parameter	Units	60155988001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	64800	50000	117000	105	90-110	

MATRIX SPIKE SAMPLE: 1279607

Parameter	Units	60156091001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66200	50000	121000	110	90-110	

MATRIX SPIKE SAMPLE: 1279608

Parameter	Units	60156189001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	67100	50000	120000	107	90-110	

MATRIX SPIKE SAMPLE: 1279609

Parameter	Units	60156288001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	66500	50000	111000	88	90-110	M1

REPORT OF LABORATORY ANALYSIS

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

QUALIFIERS

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156288001	**316-115R**	EPA 200.7	MPRP/24892	EPA 200.7	ICP/19298
60156288001	**316-115R**	EPA 200.7	MPRP/24921	EPA 200.7	ICP/19312
60156288001	**316-115R**	EPA 245.1	MERP/7861	EPA 245.1	MERC/7818
60156288001	**316-115R**	EPA 245.1	MERP/7873	EPA 245.1	MERC/7830
60156288001	**316-115R**	EPA 625	OEXT/41183	EPA 625	MSSV/13070
60156288001	**316-115R**	EPA 624 Low	MSV/57371		
60156288002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156288001	**316-115R**	EPA 1664A	WET/44239		
60156288001	**316-115R**	EPA 1664A	WET/44298		
60156288001	**316-115R**	SM 2540D	WET/44268		
60156288001	**316-115R**	SM 4500-H+B	WET/44231		
60156288001	**316-115R**	SM 5210B	WET/44233	SM 5210B	WET/44340
60156288001	**316-115R**	EPA 350.1	WETA/26914		
60156288001	**316-115R**	EPA 410.4	WETA/26865		

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Sample Condition Upon Receipt

WO#: 60156288

60156288

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ L-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: 1.8

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/26/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☑No ☐N/A	6. BOD
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 2-5 mL Final 3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	BP3S initial pH 3-5, added 25 mL Final 3-5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed ☑ Lot # of added preservative 12513-9-10
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 060313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: SRF for AKB Date: 10.26.13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.:	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

60156288

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)	
1	316-115R 5DG9U, 2BP24, BP2U	OT	G	10/25/13	1010	2 AH3S, 2 AG		4C	14	10	1/3	1	2	BP3N	3.0				X	X	X	X	X	X	X	X	X	X	X	BP3	5 2 5	LOG samples as OQS 001
2	TRIP BLANK 2 DG9U								2	2																X						002
3																																
4																																
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

Requested Analysis Filtered (Y/N)

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Crook/Feezor Engineering	10/26/13	1450	[illegible]	10/25/13	1450				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pasi	10/26	0030	1-8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 10-25-13

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

November 04, 2013

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

RE: Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156333001	**316-117**	Water	10/27/13 10:35	10/28/13 13:45
60156333002	**TRIP BLANK**	Water	10/27/13 08:00	10/28/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156333001	**316-117**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	AJM	1
		EPA 350.1	NDL	1
		EPA 410.4	JML	1
60156333002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Sample: 316-117 **Lab ID: 60156333001** Collected: 10/27/13 10:35 Received: 10/28/13 13:45 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	**5960**	ug/L	150	2	10/29/13 12:00	10/29/13 19:03	7429-90-5	
Antimony	ND	ug/L	200	20	10/29/13 12:00	10/29/13 19:10	7440-36-0	D3
Arsenic	**860**	ug/L	50.0	5	10/29/13 12:00	10/29/13 19:07	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/29/13 12:00	10/29/13 19:07	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:07	7440-43-9	
Chromium	**309**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:07	7440-47-3	
Cobalt	**48.6**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:07	7440-48-4	
Copper	ND	ug/L	20.0	2	10/29/13 12:00	10/29/13 19:03	7440-50-8	D3
Iron	**999000**	ug/L	1000	20	10/29/13 12:00	10/30/13 12:31	7439-89-6	
Lead	**162**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:07	7439-92-1	
Nickel	**116**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:07	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/29/13 12:00	10/29/13 19:07	7782-49-2	
Silver	ND	ug/L	14.0	2	10/29/13 12:00	10/29/13 19:03	7440-22-4	
Thallium	ND	ug/L	100	5	10/29/13 12:00	10/29/13 19:07	7440-28-0	
Zinc	**14000**	ug/L	1000	20	10/29/13 12:00	10/29/13 19:10	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3890**	ug/L	150	2	10/31/13 18:35	11/01/13 11:14	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/31/13 18:35	11/01/13 11:21	7440-36-0	D3
Arsenic, Dissolved	**692**	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:14	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/31/13 18:35	11/01/13 11:14	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:14	7440-43-9	
Chromium, Dissolved	**257**	ug/L	25.0	5	10/31/13 18:35	11/01/13 11:18	7440-47-3	
Cobalt, Dissolved	**35.6**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:14	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:14	7440-50-8	
Iron, Dissolved	**1030000**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:21	7439-89-6	D9
Lead, Dissolved	**89.6**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:14	7439-92-1	
Nickel, Dissolved	**89.4**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:14	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/31/13 18:35	11/01/13 11:18	7782-49-2	
Silver, Dissolved	**14.1**	ug/L	14.0	2	10/31/13 18:35	11/01/13 11:14	7440-22-4	D9
Thallium, Dissolved	ND	ug/L	100	5	10/31/13 18:35	11/01/13 11:18	7440-28-0	D3
Zinc, Dissolved	**14100**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:21	7440-66-6	D9
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.48**	ug/L	0.20	1	10/29/13 08:45	10/29/13 12:30	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	11/01/13 09:00	11/01/13 12:21	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/29/13 00:00	10/30/13 11:39	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Sample: 316-117 **Lab ID: 60156333001** Collected: 10/27/13 10:35 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	87-86-5	
Phenol	**10500**	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 11:39	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	103	%	33-120	2	10/29/13 00:00	10/30/13 11:39	4165-60-0	
2-Fluorobiphenyl (S)	67	%	39-120	2	10/29/13 00:00	10/30/13 11:39	321-60-8	
Terphenyl-d14 (S)	74	%	45-120	2	10/29/13 00:00	10/30/13 11:39	1718-51-0	
Phenol-d6 (S)	30	%	11-120	2	10/29/13 00:00	10/30/13 11:39	13127-88-3	
2-Fluorophenol (S)	43	%	17-120	2	10/29/13 00:00	10/30/13 11:39	367-12-4	
2,4,6-Tribromophenol (S)	71	%	39-120	2	10/29/13 00:00	10/30/13 11:39	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/31/13 15:08	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/31/13 15:08	75-27-4	
Bromoform	ND	ug/L	200	200		10/31/13 15:08	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/31/13 15:08	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/31/13 15:08	56-23-5	
Chloroethane	ND	ug/L	200	200		10/31/13 15:08	75-00-3	
Chloroform	ND	ug/L	200	200		10/31/13 15:08	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/31/13 15:08	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/31/13 15:08	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 15:08	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 15:08	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/31/13 15:08	100-41-4	
Methylene chloride	**293**	ug/L	200	200		10/31/13 15:08	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/31/13 15:08	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/31/13 15:08	127-18-4	
Toluene	ND	ug/L	200	200		10/31/13 15:08	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/31/13 15:08	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/31/13 15:08	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/31/13 15:08	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/31/13 15:08	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/31/13 15:08	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	200		10/31/13 15:08	460-00-4	D3
Toluene-d8 (S)	93	%	80-120	200		10/31/13 15:08	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		10/31/13 15:08	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/31/13 15:08		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1100**	mg/L	5.0	1		10/29/13 07:27		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**8.1**	mg/L	5.0	1		10/30/13 08:08		

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Sample: 316-117 **Lab ID: 60156333001** Collected: 10/27/13 10:35 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4340**	mg/L	5.0	1		10/29/13 10:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/29/13 13:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**31200**	mg/L	2.0	1	10/28/13 15:24	11/02/13 11:55		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**773**	mg/L	20.0	200		10/31/13 15:53	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**61600**	mg/L	10000	1000		10/31/13 12:05		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Sample: TRIP BLANK **Lab ID: 60156333002** Collected: 10/27/13 08:00 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 15:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 15:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 15:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 15:23	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 15:23	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 15:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 15:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 15:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 15:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 15:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 15:23	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 15:23	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 15:23	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 15:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 15:23	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 15:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 15:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 15:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 15:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 15:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 15:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		10/31/13 15:23	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		10/31/13 15:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		10/31/13 15:23	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 15:23		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: MERP/7866
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156333001

METHOD BLANK: 1279822 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/29/13 12:26	

LABORATORY CONTROL SAMPLE: 1279823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279824 1279825

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.58	5	5	7.6	8.7	141	162	70-130	13	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: MERP/7876
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156333001

METHOD BLANK: 1282003 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/01/13 12:16	

LABORATORY CONTROL SAMPLE: 1282004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1282005

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	150	114	76	70-130	

SAMPLE DUPLICATE: 1282006

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	ND		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: MPRP/24892
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156333001

METHOD BLANK: 1280057 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/29/13 18:15	
Antimony	ug/L	ND	10.0	10/29/13 18:15	
Arsenic	ug/L	ND	10.0	10/29/13 18:15	
Beryllium	ug/L	ND	1.0	10/29/13 18:15	
Cadmium	ug/L	ND	5.0	10/29/13 18:15	
Chromium	ug/L	ND	5.0	10/29/13 18:15	
Cobalt	ug/L	ND	5.0	10/29/13 18:15	
Copper	ug/L	ND	10.0	10/29/13 18:15	
Iron	ug/L	433	50.0	10/29/13 18:15	
Lead	ug/L	ND	5.0	10/29/13 18:15	
Nickel	ug/L	ND	5.0	10/29/13 18:15	
Selenium	ug/L	ND	15.0	10/29/13 18:15	
Silver	ug/L	ND	7.0	10/29/13 18:15	
Thallium	ug/L	ND	20.0	10/29/13 18:15	
Zinc	ug/L	ND	50.0	10/29/13 18:15	

LABORATORY CONTROL SAMPLE: 1280058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9170	92	85-115	
Antimony	ug/L	1000	928	93	85-115	
Arsenic	ug/L	1000	876	88	85-115	
Beryllium	ug/L	1000	909	91	85-115	
Cadmium	ug/L	1000	908	91	85-115	
Chromium	ug/L	1000	901	90	85-115	
Cobalt	ug/L	1000	931	93	85-115	
Copper	ug/L	1000	898	90	85-115	
Iron	ug/L	10000	8970	90	85-115	
Lead	ug/L	1000	944	94	85-115	
Nickel	ug/L	1000	945	95	85-115	
Selenium	ug/L	1000	911	91	85-115	
Silver	ug/L	500	453	91	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	904	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8790	10000	10000	21900	21800	131	130	70-130	0	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	901	912	84	85	70-130	1	7	
Arsenic	ug/L	821	1000	1000	1920	1940	110	111	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	941	944	94	94	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	10	
Chromium	ug/L	326	1000	1000	1290	1310	96	98	70-130	2	10	
Cobalt	ug/L	52.9	1000	1000	1020	1010	96	96	70-130	0	6	
Copper	ug/L	ND	1000	1000	1050	1010	103	100	70-130	3	11	
Iron	ug/L	1070000	10000	10000	1110000	1100000	338	266	70-130	1	10	M1
Lead	ug/L	175	1000	1000	1070	1070	89	89	70-130	0	10	
Nickel	ug/L	125	1000	1000	1090	1090	96	96	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1100	1090	110	109	70-130	1	10	
Silver	ug/L	ND	500	500	114	89.6	22	17	70-130	24	10	M1,R1
Thallium	ug/L	ND	1000	1000	776	762	78	76	70-130	2	6	
Zinc	ug/L	13300	1000	1000	13900	14000	53	65	70-130	1	11	M1

MATRIX SPIKE SAMPLE: 1280061

Parameter	Units	60155898003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	989	99	70-130	
Beryllium	ug/L	ND	1000	965	97	70-130	
Cadmium	ug/L	ND	1000	982	98	70-130	
Chromium	ug/L	ND	1000	960	96	70-130	
Cobalt	ug/L	ND	1000	967	97	70-130	
Copper	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	360	10000	9700	93	70-130	
Lead	ug/L	ND	1000	948	95	70-130	
Nickel	ug/L	ND	1000	976	97	70-130	
Selenium	ug/L	ND	1000	990	99	70-130	
Silver	ug/L	ND	500	495	99	70-130	
Thallium	ug/L	ND	1000	913	91	70-130	
Zinc	ug/L	ND	1000	982	96	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: MPRP/24944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156333001

METHOD BLANK: 1281760 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/01/13 11:05	
Antimony, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Arsenic, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Beryllium, Dissolved	ug/L	ND	1.0	11/01/13 11:05	
Cadmium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Chromium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Cobalt, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Copper, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Iron, Dissolved	ug/L	ND	50.0	11/01/13 11:05	
Lead, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Nickel, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Selenium, Dissolved	ug/L	ND	15.0	11/01/13 11:05	
Silver, Dissolved	ug/L	ND	7.0	11/01/13 11:05	
Thallium, Dissolved	ug/L	ND	20.0	11/01/13 11:05	
Zinc, Dissolved	ug/L	ND	50.0	11/01/13 11:05	

LABORATORY CONTROL SAMPLE: 1281761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	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	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3780	10000	13500	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1090	107	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	677	1000	1770	109	70-130	
Beryllium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1050	105	70-130	
Chromium, Dissolved	ug/L	263	1000	1210	95	70-130	
Cobalt, Dissolved	ug/L	35.1	1000	928	89	70-130	
Copper, Dissolved	ug/L	ND	1000	1010	101	70-130	
Iron, Dissolved	ug/L	851000	10000	819000	-322	70-130	M1
Lead, Dissolved	ug/L	79.3	1000	906	83	70-130	
Nickel, Dissolved	ug/L	88.6	1000	976	89	70-130	
Selenium, Dissolved	ug/L	ND	1000	1110	111	70-130	
Silver, Dissolved	ug/L	ND	500	537	105	70-130	
Thallium, Dissolved	ug/L	ND	1000	774	77	70-130	
Zinc, Dissolved	ug/L	11600	1000	12400	84	70-130	

SAMPLE DUPLICATE: 1281763

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	3830	3960	3	20	
Antimony, Dissolved	ug/L	ND	ND		20	D3
Arsenic, Dissolved	ug/L	729	730	0	20	
Beryllium, Dissolved	ug/L	ND	ND		20	D3
Cadmium, Dissolved	ug/L	ND	ND		20	
Chromium, Dissolved	ug/L	253	265	5	20	
Cobalt, Dissolved	ug/L	34.3	35.7	4	20	
Copper, Dissolved	ug/L	ND	ND		20	
Iron, Dissolved	ug/L	885000	848000	4	20	
Lead, Dissolved	ug/L	84.8	90.9	7	20	
Nickel, Dissolved	ug/L	91.2	95.4	4	20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	13.9J		20	
Thallium, Dissolved	ug/L	ND	ND		20	D3
Zinc, Dissolved	ug/L	16000	14900	7	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: MSV/57371 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156333001, 60156333002

METHOD BLANK: 1281397 Matrix: Water
Associated Lab Samples: 60156333001, 60156333002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: OEXT/41216 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60156333001

METHOD BLANK: 1279785 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/30/13 08:49	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/30/13 08:49	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/30/13 08:49	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/30/13 08:49	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/30/13 08:49	
Hexachloroethane	ug/L	ND	5.0	10/30/13 08:49	
Naphthalene	ug/L	ND	5.0	10/30/13 08:49	
Nitrobenzene	ug/L	ND	5.0	10/30/13 08:49	
Pentachlorophenol	ug/L	ND	5.0	10/30/13 08:49	
Phenol	ug/L	ND	5.0	10/30/13 08:49	
2,4,6-Tribromophenol (S)	%	73	39-120	10/30/13 08:49	
2-Fluorobiphenyl (S)	%	71	39-120	10/30/13 08:49	
2-Fluorophenol (S)	%	45	17-120	10/30/13 08:49	
Nitrobenzene-d5 (S)	%	74	33-120	10/30/13 08:49	
Phenol-d6 (S)	%	29	11-120	10/30/13 08:49	
Terphenyl-d14 (S)	%	77	45-120	10/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1279786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.4	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	46.5	93	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	62.1	124	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.9	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	40.5	81	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	46.4	93	48-120	
Pentachlorophenol	ug/L	50	58.1	116	47-120	
Phenol	ug/L	50	19.8	40	16-112	
2,4,6-Tribromophenol (S)	%			95	39-120	
2-Fluorobiphenyl (S)	%			91	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			90	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			100	45-120	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

MATRIX SPIKE SAMPLE: 1279787

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3510	70	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4130	83	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4700J	94	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3620	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5670	57	11-120	
Hexachloroethane	ug/L	ND	5000	3640	73	40-113	
Naphthalene	ug/L	ND	5000	4200	73	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4840	97	43-135	
Phenol	ug/L	11200	5000	12700	30	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				114	33-120	
Phenol-d6 (S)	%				44	11-120	
Terphenyl-d14 (S)	%				85	45-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WET/44262
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156333001

METHOD BLANK: 1279763 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/29/13 07:26	

LABORATORY CONTROL SAMPLE: 1279764

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

MATRIX SPIKE SAMPLE: 1279769

Parameter	Units	60156259001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	45.8	104	78-114	

SAMPLE DUPLICATE: 1279767

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1150	1120	3	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156333001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WET/44268 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156333001

METHOD BLANK: 1279828 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/29/13 10:21	

SAMPLE DUPLICATE: 1279829

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4660	4600	1	25	

SAMPLE DUPLICATE: 1279830

Parameter	Units	60156323001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	115	108	6	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WET/44284
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156333001

SAMPLE DUPLICATE: 1280096

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WET/44257
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156333001

METHOD BLANK: 1279660 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/02/13 11:31	

LABORATORY CONTROL SAMPLE: 1279661

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	174	88	85-115	

SAMPLE DUPLICATE: 1279662

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31500	31000	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156333001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

QC Batch: WETA/26902 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156333001

METHOD BLANK: 1280942 Matrix: Water
Associated Lab Samples: 60156333001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/31/13 12:00	

LABORATORY CONTROL SAMPLE: 1280943

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.6	93	90-110	

MATRIX SPIKE SAMPLE: 1280944

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75000	50000	150000	151	90-110	M1

MATRIX SPIKE SAMPLE: 1280945

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49800	50000	113000	126	90-110	M1

SAMPLE DUPLICATE: 1280952

Parameter	Units	60156311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-117
Pace Project No.: 60156333

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156333001	**316-117**	EPA 200.7	MPRP/24892	EPA 200.7	ICP/19298
60156333001	**316-117**	EPA 200.7	MPRP/24944	EPA 200.7	ICP/19329
60156333001	**316-117**	EPA 245.1	MERP/7866	EPA 245.1	MERC/7823
60156333001	**316-117**	EPA 245.1	MERP/7876	EPA 245.1	MERC/7833
60156333001	**316-117**	EPA 625	OEXT/41216	EPA 625	MSSV/13089
60156333001	**316-117**	EPA 624 Low	MSV/57371		
60156333002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156333001	**316-117**	EPA 1664A	WET/44262		
60156333001	**316-117**	EPA 1664A	WET/44298		
60156333001	**316-117**	SM 2540D	WET/44268		
60156333001	**316-117**	SM 4500-H+B	WET/44284		
60156333001	**316-117**	SM 5210B	WET/44257	SM 5210B	WET/44372
60156333001	**316-117**	EPA 350.1	WETA/26914		
60156333001	**316-117**	EPA 410.4	WETA/26902		

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Sample Condition Upon Receipt

WO# : 60156333

60156333

Client Name: Barr Eng.

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☑ Pace ☐ Other ☐ ~~Via~~ XR

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: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DD 10/24/13 1900

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	samples not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative 12510-8-3
Trip Blank present: Pace Trip Blank lot # (if purchased): Covered	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State: 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: 10/29/13

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: JANET ROLLEN	
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.: PO 3727110	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 #: 6787 LINE 2	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)	Requested Analysis Filtered (Y/N)
1	316-117	OT	G	10/27/13	1035				14	10	1	1	1					X	X	X	X	X	X	X	X	X	X	X		LOG samples as OQS 001
2	TRIP BLANK								2	2	2															X				2(0891) 002
3																															
4																															
5																															
6																														METALS LIST total & LF Dis:	
7																														Al,Sb,As,Be,Cd,Cr,	
8																														Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn	
9																														and Mercury	
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299		10-28-13	0945	Bob Stevie 412	10-28-13	0945				
SITE ADDRESS: BRIDGETON LF					10/28/13	1345	2.6	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:	DATE Signed: 10/27/13				

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

November 04, 2013

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

RE: Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 28, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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

CERTIFICATIONS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156334001	**316-116**	Water	10/26/13 16:22	10/28/13 13:45
60156334002	**TRIP BLANK**	Water	10/26/13 08:00	10/28/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156334001	**316-116**	EPA 200.7	SMW	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	AJM	1
		EPA 350.1	NDL	1
		EPA 410.4	JML	1
60156334002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Sample: 316-116 **Lab ID: 60156334001** Collected: 10/26/13 16:22 Received: 10/28/13 13:45 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	**8790**	ug/L	150	2	10/29/13 12:00	10/29/13 19:13	7429-90-5	M1
Antimony	ND	ug/L	200	20	10/29/13 12:00	10/29/13 19:20	7440-36-0	D3
Arsenic	**821**	ug/L	50.0	5	10/29/13 12:00	10/29/13 19:17	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/29/13 12:00	10/29/13 19:17	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:17	7440-43-9	
Chromium	**326**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:17	7440-47-3	
Cobalt	**52.9**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:17	7440-48-4	
Copper	ND	ug/L	20.0	2	10/29/13 12:00	10/29/13 19:13	7440-50-8	D3
Iron	**1070000**	ug/L	1000	20	10/29/13 12:00	10/30/13 12:34	7439-89-6	M1
Lead	**175**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:17	7439-92-1	
Nickel	**125**	ug/L	25.0	5	10/29/13 12:00	10/29/13 19:17	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/29/13 12:00	10/29/13 19:17	7782-49-2	
Silver	ND	ug/L	14.0	2	10/29/13 12:00	10/29/13 19:13	7440-22-4	M1,R1
Thallium	ND	ug/L	100	5	10/29/13 12:00	10/29/13 19:17	7440-28-0	
Zinc	**13300**	ug/L	1000	20	10/29/13 12:00	10/29/13 19:20	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3780**	ug/L	150	2	10/31/13 18:35	11/01/13 11:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/31/13 18:35	11/01/13 11:31	7440-36-0	D3
Arsenic, Dissolved	**677**	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/31/13 18:35	11/01/13 11:24	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:24	7440-43-9	
Chromium, Dissolved	**263**	ug/L	25.0	5	10/31/13 18:35	11/01/13 11:28	7440-47-3	
Cobalt, Dissolved	**35.1**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:24	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:24	7440-50-8	
Iron, Dissolved	**851000**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:31	7439-89-6	M1
Lead, Dissolved	**79.3**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:24	7439-92-1	
Nickel, Dissolved	**88.6**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/31/13 18:35	11/01/13 11:28	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/31/13 18:35	11/01/13 11:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/31/13 18:35	11/01/13 11:28	7440-28-0	D3
Zinc, Dissolved	**11600**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:31	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.58**	ug/L	0.20	1	10/29/13 08:45	10/29/13 12:32	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	11/01/13 09:00	11/01/13 12:23	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/29/13 00:00	10/30/13 12:00	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Sample: 316-116 **Lab ID: 60156334001** Collected: 10/26/13 16:22 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	87-86-5	
Phenol	**11200**	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/29/13 00:00	10/30/13 12:00	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	109	%	33-120	2	10/29/13 00:00	10/30/13 12:00	4165-60-0	
2-Fluorobiphenyl (S)	76	%	39-120	2	10/29/13 00:00	10/30/13 12:00	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	10/29/13 00:00	10/30/13 12:00	1718-51-0	
Phenol-d6 (S)	44	%	11-120	2	10/29/13 00:00	10/30/13 12:00	13127-88-3	
2-Fluorophenol (S)	46	%	17-120	2	10/29/13 00:00	10/30/13 12:00	367-12-4	
2,4,6-Tribromophenol (S)	81	%	39-120	2	10/29/13 00:00	10/30/13 12:00	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/31/13 15:51	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/31/13 15:51	75-27-4	
Bromoform	ND	ug/L	200	200		10/31/13 15:51	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/31/13 15:51	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/31/13 15:51	56-23-5	
Chloroethane	ND	ug/L	200	200		10/31/13 15:51	75-00-3	
Chloroform	ND	ug/L	200	200		10/31/13 15:51	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/31/13 15:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/31/13 15:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 15:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 15:51	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/31/13 15:51	100-41-4	
Methylene chloride	**265**	ug/L	200	200		10/31/13 15:51	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/31/13 15:51	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/31/13 15:51	127-18-4	
Toluene	ND	ug/L	200	200		10/31/13 15:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/31/13 15:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/31/13 15:51	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/31/13 15:51	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/31/13 15:51	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/31/13 15:51	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		10/31/13 15:51	460-00-4	D3
Toluene-d8 (S)	94	%	80-120	200		10/31/13 15:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	200		10/31/13 15:51	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/31/13 15:51		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1150**	mg/L	5.0	1		10/29/13 07:27		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**7.7**	mg/L	5.0	1		10/30/13 08:08		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Sample: 316-116 **Lab ID: 60156334001** Collected: 10/26/13 16:22 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4660**	mg/L	5.0	1		10/29/13 10:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		10/29/13 13:30		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**31500**	mg/L	2.0	1	10/28/13 15:22	11/02/13 11:42		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**805**	mg/L	20.0	200		10/31/13 15:57	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**75000**	mg/L	10000	1000		10/31/13 12:07		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Sample: TRIP BLANK **Lab ID: 60156334002** Collected: 10/26/13 08:00 Received: 10/28/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 16:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 16:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 16:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 16:21	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 16:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 16:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 16:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 16:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 16:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 16:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 16:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 16:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 16:21	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 16:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 16:21	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 16:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 16:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 16:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 16:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 16:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 16:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		10/31/13 16:21	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		10/31/13 16:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		10/31/13 16:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 16:21		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: MERP/7866
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156334001

METHOD BLANK: 1279822 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/29/13 12:26	

LABORATORY CONTROL SAMPLE: 1279823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.4	108	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1279824 1279825

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.58	5	5	7.6	8.7	141	162	70-130	13	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: MERP/7876
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156334001

METHOD BLANK: 1282003 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/01/13 12:16	

LABORATORY CONTROL SAMPLE: 1282004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1282005

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	150	114	76	70-130	

SAMPLE DUPLICATE: 1282006

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	ND		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: MPRP/24892
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156334001

METHOD BLANK: 1280057 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	10/29/13 18:15	
Antimony	ug/L	ND	10.0	10/29/13 18:15	
Arsenic	ug/L	ND	10.0	10/29/13 18:15	
Beryllium	ug/L	ND	1.0	10/29/13 18:15	
Cadmium	ug/L	ND	5.0	10/29/13 18:15	
Chromium	ug/L	ND	5.0	10/29/13 18:15	
Cobalt	ug/L	ND	5.0	10/29/13 18:15	
Copper	ug/L	ND	10.0	10/29/13 18:15	
Iron	ug/L	433	50.0	10/29/13 18:15	
Lead	ug/L	ND	5.0	10/29/13 18:15	
Nickel	ug/L	ND	5.0	10/29/13 18:15	
Selenium	ug/L	ND	15.0	10/29/13 18:15	
Silver	ug/L	ND	7.0	10/29/13 18:15	
Thallium	ug/L	ND	20.0	10/29/13 18:15	
Zinc	ug/L	ND	50.0	10/29/13 18:15	

LABORATORY CONTROL SAMPLE: 1280058

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9170	92	85-115	
Antimony	ug/L	1000	928	93	85-115	
Arsenic	ug/L	1000	876	88	85-115	
Beryllium	ug/L	1000	909	91	85-115	
Cadmium	ug/L	1000	908	91	85-115	
Chromium	ug/L	1000	901	90	85-115	
Cobalt	ug/L	1000	931	93	85-115	
Copper	ug/L	1000	898	90	85-115	
Iron	ug/L	10000	8970	90	85-115	
Lead	ug/L	1000	944	94	85-115	
Nickel	ug/L	1000	945	95	85-115	
Selenium	ug/L	1000	911	91	85-115	
Silver	ug/L	500	453	91	85-115	
Thallium	ug/L	1000	966	97	85-115	
Zinc	ug/L	1000	904	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	8790	10000	10000	21900	21800	131	130	70-130	0	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280059 1280060

Parameter	Units	60156334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	901	912	84	85	70-130	1	7	
Arsenic	ug/L	821	1000	1000	1920	1940	110	111	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	941	944	94	94	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	10	
Chromium	ug/L	326	1000	1000	1290	1310	96	98	70-130	2	10	
Cobalt	ug/L	52.9	1000	1000	1020	1010	96	96	70-130	0	6	
Copper	ug/L	ND	1000	1000	1050	1010	103	100	70-130	3	11	
Iron	ug/L	1070000	10000	10000	1110000	1100000	338	266	70-130	1	10	M1
Lead	ug/L	175	1000	1000	1070	1070	89	89	70-130	0	10	
Nickel	ug/L	125	1000	1000	1090	1090	96	96	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1100	1090	110	109	70-130	1	10	
Silver	ug/L	ND	500	500	114	89.6	22	17	70-130	24	10	M1,R1
Thallium	ug/L	ND	1000	1000	776	762	78	76	70-130	2	6	
Zinc	ug/L	13300	1000	1000	13900	14000	53	65	70-130	1	11	M1

MATRIX SPIKE SAMPLE: 1280061

Parameter	Units	60155898003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	989	99	70-130	
Beryllium	ug/L	ND	1000	965	97	70-130	
Cadmium	ug/L	ND	1000	982	98	70-130	
Chromium	ug/L	ND	1000	960	96	70-130	
Cobalt	ug/L	ND	1000	967	97	70-130	
Copper	ug/L	ND	1000	974	97	70-130	
Iron	ug/L	360	10000	9700	93	70-130	
Lead	ug/L	ND	1000	948	95	70-130	
Nickel	ug/L	ND	1000	976	97	70-130	
Selenium	ug/L	ND	1000	990	99	70-130	
Silver	ug/L	ND	500	495	99	70-130	
Thallium	ug/L	ND	1000	913	91	70-130	
Zinc	ug/L	ND	1000	982	96	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: MPRP/24944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156334001

METHOD BLANK: 1281760 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/01/13 11:05	
Antimony, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Arsenic, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Beryllium, Dissolved	ug/L	ND	1.0	11/01/13 11:05	
Cadmium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Chromium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Cobalt, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Copper, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Iron, Dissolved	ug/L	ND	50.0	11/01/13 11:05	
Lead, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Nickel, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Selenium, Dissolved	ug/L	ND	15.0	11/01/13 11:05	
Silver, Dissolved	ug/L	ND	7.0	11/01/13 11:05	
Thallium, Dissolved	ug/L	ND	20.0	11/01/13 11:05	
Zinc, Dissolved	ug/L	ND	50.0	11/01/13 11:05	

LABORATORY CONTROL SAMPLE: 1281761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	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	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3780	10000	13500	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1090	107	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	677	1000	1770	109	70-130	
Beryllium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1050	105	70-130	
Chromium, Dissolved	ug/L	263	1000	1210	95	70-130	
Cobalt, Dissolved	ug/L	35.1	1000	928	89	70-130	
Copper, Dissolved	ug/L	ND	1000	1010	101	70-130	
Iron, Dissolved	ug/L	851000	10000	819000	-322	70-130	M1
Lead, Dissolved	ug/L	79.3	1000	906	83	70-130	
Nickel, Dissolved	ug/L	88.6	1000	976	89	70-130	
Selenium, Dissolved	ug/L	ND	1000	1110	111	70-130	
Silver, Dissolved	ug/L	ND	500	537	105	70-130	
Thallium, Dissolved	ug/L	ND	1000	774	77	70-130	
Zinc, Dissolved	ug/L	11600	1000	12400	84	70-130	

SAMPLE DUPLICATE: 1281763

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	3830	3960	3	20	
Antimony, Dissolved	ug/L	ND	ND		20	D3
Arsenic, Dissolved	ug/L	729	730	0	20	
Beryllium, Dissolved	ug/L	ND	ND		20	D3
Cadmium, Dissolved	ug/L	ND	ND		20	
Chromium, Dissolved	ug/L	253	265	5	20	
Cobalt, Dissolved	ug/L	34.3	35.7	4	20	
Copper, Dissolved	ug/L	ND	ND		20	
Iron, Dissolved	ug/L	885000	848000	4	20	
Lead, Dissolved	ug/L	84.8	90.9	7	20	
Nickel, Dissolved	ug/L	91.2	95.4	4	20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	13.9J		20	
Thallium, Dissolved	ug/L	ND	ND		20	D3
Zinc, Dissolved	ug/L	16000	14900	7	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: MSV/57371 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156334001, 60156334002

METHOD BLANK: 1281397 Matrix: Water
Associated Lab Samples: 60156334001, 60156334002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: OEXT/41216
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156334001

METHOD BLANK: 1279785
Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	10/30/13 08:49	
2,4,6-Trichlorophenol	ug/L	ND	5.0	10/30/13 08:49	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	10/30/13 08:49	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	10/30/13 08:49	
Hexachlorocyclopentadiene	ug/L	ND	5.0	10/30/13 08:49	
Hexachloroethane	ug/L	ND	5.0	10/30/13 08:49	
Naphthalene	ug/L	ND	5.0	10/30/13 08:49	
Nitrobenzene	ug/L	ND	5.0	10/30/13 08:49	
Pentachlorophenol	ug/L	ND	5.0	10/30/13 08:49	
Phenol	ug/L	ND	5.0	10/30/13 08:49	
2,4,6-Tribromophenol (S)	%	73	39-120	10/30/13 08:49	
2-Fluorobiphenyl (S)	%	71	39-120	10/30/13 08:49	
2-Fluorophenol (S)	%	45	17-120	10/30/13 08:49	
Nitrobenzene-d5 (S)	%	74	33-120	10/30/13 08:49	
Phenol-d6 (S)	%	29	11-120	10/30/13 08:49	
Terphenyl-d14 (S)	%	77	45-120	10/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1279786

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.4	85	46-120	
2,4,6-Trichlorophenol	ug/L	50	46.5	93	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	62.1	124	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.9	78	44-116	
Hexachlorocyclopentadiene	ug/L	100	60.1	60	24-120	
Hexachloroethane	ug/L	50	40.5	81	43-113	
Naphthalene	ug/L	50	44.2	88	48-120	
Nitrobenzene	ug/L	50	46.4	93	48-120	
Pentachlorophenol	ug/L	50	58.1	116	47-120	
Phenol	ug/L	50	19.8	40	16-112	
2,4,6-Tribromophenol (S)	%			95	39-120	
2-Fluorobiphenyl (S)	%			91	39-120	
2-Fluorophenol (S)	%			52	17-120	
Nitrobenzene-d5 (S)	%			90	33-120	
Phenol-d6 (S)	%			34	11-120	
Terphenyl-d14 (S)	%			100	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

MATRIX SPIKE SAMPLE: 1279787

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3510	70	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	4130	83	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	4700J	94	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3620	72	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	5670	57	11-120	
Hexachloroethane	ug/L	ND	5000	3640	73	40-113	
Naphthalene	ug/L	ND	5000	4200	73	45-120	
Nitrobenzene	ug/L	ND	5000	3850	77	38-120	
Pentachlorophenol	ug/L	ND	5000	4840	97	43-135	
Phenol	ug/L	11200	5000	12700	30	13-112	
2,4,6-Tribromophenol (S)	%				83	39-120	
2-Fluorobiphenyl (S)	%				79	39-120	
2-Fluorophenol (S)	%				47	17-120	
Nitrobenzene-d5 (S)	%				114	33-120	
Phenol-d6 (S)	%				44	11-120	
Terphenyl-d14 (S)	%				85	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WET/44262
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156334001

METHOD BLANK: 1279763 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/29/13 07:26	

LABORATORY CONTROL SAMPLE: 1279764

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

MATRIX SPIKE SAMPLE: 1279769

Parameter	Units	60156259001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.7	45.8	104	78-114	

SAMPLE DUPLICATE: 1279767

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1150	1120	3	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WET/44298 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156334001

METHOD BLANK: 1280358 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	10/30/13 08:05	

LABORATORY CONTROL SAMPLE: 1280359

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	19.6	98	64-132	

MATRIX SPIKE SAMPLE: 1280364

Parameter	Units	60156040001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.2	23.5	110	64-132	

SAMPLE DUPLICATE: 1280363

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.7	7.3	5	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WET/44268 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156334001

METHOD BLANK: 1279828 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/29/13 10:21	

SAMPLE DUPLICATE: 1279829

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	4660	4600	1	25	

SAMPLE DUPLICATE: 1279830

Parameter	Units	60156323001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	115	108	6	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WET/44284
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156334001

SAMPLE DUPLICATE: 1280096

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WET/44257 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156334001

METHOD BLANK: 1279660 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/02/13 11:31	

LABORATORY CONTROL SAMPLE: 1279661

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	174	88	85-115	

SAMPLE DUPLICATE: 1279662

Parameter	Units	60156334001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31500	31000	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156334001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

QC Batch: WETA/26902 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156334001

METHOD BLANK: 1280942 Matrix: Water
Associated Lab Samples: 60156334001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/31/13 12:00	

LABORATORY CONTROL SAMPLE: 1280943

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.6	93	90-110	

MATRIX SPIKE SAMPLE: 1280944

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75000	50000	150000	151	90-110	M1

MATRIX SPIKE SAMPLE: 1280945

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49800	50000	113000	126	90-110	M1

SAMPLE DUPLICATE: 1280952

Parameter	Units	60156311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-116
Pace Project No.: 60156334

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156334001	**316-116**	EPA 200.7	MPRP/24892	EPA 200.7	ICP/19298
60156334001	**316-116**	EPA 200.7	MPRP/24944	EPA 200.7	ICP/19329
60156334001	**316-116**	EPA 245.1	MERP/7866	EPA 245.1	MERC/7823
60156334001	**316-116**	EPA 245.1	MERP/7876	EPA 245.1	MERC/7833
60156334001	**316-116**	EPA 625	OEXT/41216	EPA 625	MSSV/13089
60156334001	**316-116**	EPA 624 Low	MSV/57371		
60156334002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156334001	**316-116**	EPA 1664A	WET/44262		
60156334001	**316-116**	EPA 1664A	WET/44298		
60156334001	**316-116**	SM 2540D	WET/44268		
60156334001	**316-116**	SM 4500-H+B	WET/44284		
60156334001	**316-116**	SM 5210B	WET/44257	SM 5210B	WET/44372
60156334001	**316-116**	EPA 350.1	WETA/26914		
60156334001	**316-116**	EPA 410.4	WETA/26902		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60156334

60156334

Client Name: Barr Eng.

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

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: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DLS 10/28/13 1400

Chain of Custody present:	☑Yes	☐No	☐N/A	1.
Chain of Custody filled out:	☑Yes	☐No	☐N/A	2.
Chain of Custody relinquished:	☑Yes	☐No	☐N/A	3.
Sampler name & signature on COC:	☑Yes	☐No	☐N/A	4.
Samples arrived within holding time:	☑Yes	☐No	☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A	7.
Sufficient volume:	☑Yes	☐No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC:	☑Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: water				13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	samples not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed / Lot # of added preservative 12510-2-3
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: WI

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/28/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	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)	6015637A 1(BPS)7.0 1(BP3N)7.0 2(AG5S) 2(BP2N) 1(BP3N) 2(AG4H) 5(DG9N)
1	316-116	OT	G	10/26/13	1622	—	—		14	10	[illegible]	1	✓						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS 001
2	TRIP BLANK	—		—	—	—	—		2	2																X						2(DG9H) 002
3																																
4																																
5																																
6																																METALS LIST total & LF Dis
7																																Al,Sb,As,Be,Cd,Cr,
8																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
9																																and Mercury
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature]	10-28-13	0945	Bill Stow 412	10-28-13	0945				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	10/28/13	1345	1.4	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/26/13

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

November 06, 2013

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

RE: Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156427001	**316-118**	Water	10/28/13 11:20	10/30/13 02:15
60156427002	**TRIP BLANK**	Water	10/28/13 11:20	10/30/13 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156427001	**316-118**	EPA 200.7	TJT	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JML	1
60156427002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Sample: 316-118 **Lab ID: 60156427001** Collected: 10/28/13 11:20 Received: 10/30/13 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	**5460**	ug/L	375	5	10/30/13 15:15	11/04/13 16:07	7429-90-5	
Antimony	**69.0**	ug/L	50.0	5	10/30/13 15:15	11/04/13 16:07	7440-36-0	
Arsenic	**832**	ug/L	50.0	5	10/30/13 15:15	11/04/13 16:07	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/30/13 15:15	11/04/13 16:07	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/30/13 15:15	11/04/13 16:07	7440-43-9	
Chromium	**289**	ug/L	25.0	5	10/30/13 15:15	11/04/13 16:07	7440-47-3	
Cobalt	**34.7**	ug/L	25.0	5	10/30/13 15:15	11/04/13 16:07	7440-48-4	
Copper	ND	ug/L	50.0	5	10/30/13 15:15	11/04/13 16:07	7440-50-8	
Iron	**847000**	ug/L	250	5	10/30/13 15:15	11/04/13 16:07	7439-89-6	
Lead	**125**	ug/L	25.0	5	10/30/13 15:15	11/04/13 16:07	7439-92-1	
Nickel	**122**	ug/L	25.0	5	10/30/13 15:15	11/04/13 16:07	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/30/13 15:15	11/04/13 16:07	7782-49-2	
Silver	ND	ug/L	35.0	5	10/30/13 15:15	11/04/13 16:07	7440-22-4	
Thallium	ND	ug/L	100	5	10/30/13 15:15	11/04/13 16:07	7440-28-0	
Zinc	**14500**	ug/L	1000	20	10/30/13 15:15	11/04/13 16:16	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3960**	ug/L	150	2	10/31/13 18:35	11/01/13 11:51	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/31/13 18:35	11/01/13 11:58	7440-36-0	D3
Arsenic, Dissolved	**740**	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:51	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/31/13 18:35	11/01/13 11:51	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:51	7440-43-9	
Chromium, Dissolved	**258**	ug/L	25.0	5	10/31/13 18:35	11/01/13 11:55	7440-47-3	
Cobalt, Dissolved	**34.7**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:51	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/31/13 18:35	11/01/13 11:51	7440-50-8	
Iron, Dissolved	**976000**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:58	7439-89-6	
Lead, Dissolved	**89.0**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:51	7439-92-1	
Nickel, Dissolved	**93.2**	ug/L	10.0	2	10/31/13 18:35	11/01/13 11:51	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/31/13 18:35	11/01/13 11:55	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/31/13 18:35	11/01/13 11:51	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/31/13 18:35	11/01/13 11:55	7440-28-0	D3
Zinc, Dissolved	**16000**	ug/L	1000	20	10/31/13 18:35	11/01/13 11:58	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.62**	ug/L	0.20	1	10/30/13 16:00	10/31/13 11:04	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	11/01/13 09:00	11/01/13 12:28	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/31/13 00:00	11/01/13 20:02	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Sample: 316-118 **Lab ID: 60156427001** Collected: 10/28/13 11:20 Received: 10/30/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	87-86-5	
Phenol	**10200**	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:02	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	117	%	33-120	2	10/31/13 00:00	11/01/13 20:02	4165-60-0	
2-Fluorobiphenyl (S)	79	%	39-120	2	10/31/13 00:00	11/01/13 20:02	321-60-8	
Terphenyl-d14 (S)	90	%	45-120	2	10/31/13 00:00	11/01/13 20:02	1718-51-0	
Phenol-d6 (S)	43	%	11-120	2	10/31/13 00:00	11/01/13 20:02	13127-88-3	
2-Fluorophenol (S)	45	%	17-120	2	10/31/13 00:00	11/01/13 20:02	367-12-4	
2,4,6-Tribromophenol (S)	83	%	39-120	2	10/31/13 00:00	11/01/13 20:02	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		10/31/13 17:06	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		10/31/13 17:06	75-27-4	
Bromoform	ND	ug/L	200	200		10/31/13 17:06	75-25-2	
Bromomethane	ND	ug/L	1000	200		10/31/13 17:06	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		10/31/13 17:06	56-23-5	
Chloroethane	ND	ug/L	200	200		10/31/13 17:06	75-00-3	
Chloroform	ND	ug/L	200	200		10/31/13 17:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		10/31/13 17:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		10/31/13 17:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 17:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		10/31/13 17:06	156-60-5	
Ethylbenzene	ND	ug/L	200	200		10/31/13 17:06	100-41-4	
Methylene chloride	**264**	ug/L	200	200		10/31/13 17:06	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		10/31/13 17:06	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		10/31/13 17:06	127-18-4	
Toluene	ND	ug/L	200	200		10/31/13 17:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		10/31/13 17:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		10/31/13 17:06	79-00-5	
Trichloroethene	ND	ug/L	200	200		10/31/13 17:06	79-01-6	
Vinyl chloride	ND	ug/L	200	200		10/31/13 17:06	75-01-4	
Xylene (Total)	ND	ug/L	600	200		10/31/13 17:06	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		10/31/13 17:06	460-00-4	D3
Toluene-d8 (S)	96	%	80-120	200		10/31/13 17:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		10/31/13 17:06	17060-07-0	
Preservation pH	**6.0**		1.0	200		10/31/13 17:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**935**	mg/L	5.0	1		10/31/13 07:43		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.8**	mg/L	5.0	1		11/05/13 11:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Sample: 316-118 **Lab ID: 60156427001** Collected: 10/28/13 11:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5420**	mg/L	5.0	1		10/31/13 10:03		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		10/31/13 13:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**33300**	mg/L	2.0	1	10/30/13 10:41	11/04/13 08:08		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**786**	mg/L	20.0	200		10/31/13 15:59	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**61300**	mg/L	10000	1000		10/31/13 12:13		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Sample: TRIP BLANK **Lab ID: 60156427002** Collected: 10/28/13 11:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 17:21	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 17:21	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 17:21	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 17:21	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 17:21	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 17:21	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 17:21	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 17:21	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 17:21	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 17:21	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 17:21	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 17:21	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 17:21	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 17:21	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 17:21	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 17:21	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 17:21	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 17:21	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 17:21	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 17:21	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 17:21	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		10/31/13 17:21	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		10/31/13 17:21	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		10/31/13 17:21	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 17:21		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MERP/7872
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156427001

METHOD BLANK: 1280929 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/31/13 10:59	

LABORATORY CONTROL SAMPLE: 1280930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280931 1280932

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.76	5	5	1.3	0.64	10	-2	70-130	66	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MERP/7876
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156427001

METHOD BLANK: 1282003 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/01/13 12:16	

LABORATORY CONTROL SAMPLE: 1282004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1282005

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	150	114	76	70-130	

SAMPLE DUPLICATE: 1282006

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	ND		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MPRP/24910
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156427001

METHOD BLANK: 1280751 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	11/04/13 15:08	
Antimony	ug/L	ND	10.0	11/04/13 15:08	
Arsenic	ug/L	ND	10.0	11/04/13 15:08	
Beryllium	ug/L	ND	1.0	11/04/13 15:08	
Cadmium	ug/L	ND	5.0	11/04/13 15:08	
Chromium	ug/L	ND	5.0	11/04/13 15:08	
Cobalt	ug/L	ND	5.0	11/04/13 15:08	
Copper	ug/L	ND	10.0	11/04/13 15:08	
Iron	ug/L	52.6	50.0	11/04/13 15:08	
Lead	ug/L	ND	5.0	11/04/13 15:08	
Nickel	ug/L	ND	5.0	11/04/13 15:08	
Selenium	ug/L	ND	15.0	11/04/13 15:08	
Silver	ug/L	ND	7.0	11/04/13 15:08	
Thallium	ug/L	ND	20.0	11/04/13 15:08	
Zinc	ug/L	ND	50.0	11/04/13 15:08	

LABORATORY CONTROL SAMPLE: 1280752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9620	96	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	986	99	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	986	99	85-115	
Iron	ug/L	10000	9670	97	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1050	105	85-115	
Zinc	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280753 1280754

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	6220	10000	10000	16800	16800	106	106	70-130	0	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280753 1280754

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	68.4	1000	1000	852	838	78	77	70-130	2	7	
Arsenic	ug/L	840	1000	1000	1960	1940	112	110	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	922	930	92	93	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	10	
Chromium	ug/L	302	1000	1000	1250	1260	94	95	70-130	1	10	
Cobalt	ug/L	34.7	1000	1000	950	958	91	92	70-130	1	6	
Copper	ug/L	ND	1000	1000	984	979	98	98	70-130	1	11	
Iron	ug/L	946000	10000	10000	924000	927000	-210	-185	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1030	1040	89	90	70-130	2	10	
Nickel	ug/L	117	1000	1000	1040	1040	92	92	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1020	1030	102	103	70-130	1	10	
Silver	ug/L	ND	500	500	8.9J	8.4J	1	1	70-130		10	M1
Thallium	ug/L	ND	1000	1000	740	740	74	74	70-130	0	6	
Zinc	ug/L	15200	1000	1000	15700	15500	51	29	70-130	1	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MPRP/24944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156427001

METHOD BLANK: 1281760 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/01/13 11:05	
Antimony, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Arsenic, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Beryllium, Dissolved	ug/L	ND	1.0	11/01/13 11:05	
Cadmium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Chromium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Cobalt, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Copper, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Iron, Dissolved	ug/L	ND	50.0	11/01/13 11:05	
Lead, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Nickel, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Selenium, Dissolved	ug/L	ND	15.0	11/01/13 11:05	
Silver, Dissolved	ug/L	ND	7.0	11/01/13 11:05	
Thallium, Dissolved	ug/L	ND	20.0	11/01/13 11:05	
Zinc, Dissolved	ug/L	ND	50.0	11/01/13 11:05	

LABORATORY CONTROL SAMPLE: 1281761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	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	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3780	10000	13500	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1090	107	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	677	1000	1770	109	70-130	
Beryllium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1050	105	70-130	
Chromium, Dissolved	ug/L	263	1000	1210	95	70-130	
Cobalt, Dissolved	ug/L	35.1	1000	928	89	70-130	
Copper, Dissolved	ug/L	ND	1000	1010	101	70-130	
Iron, Dissolved	ug/L	851000	10000	819000	-322	70-130	M1
Lead, Dissolved	ug/L	79.3	1000	906	83	70-130	
Nickel, Dissolved	ug/L	88.6	1000	976	89	70-130	
Selenium, Dissolved	ug/L	ND	1000	1110	111	70-130	
Silver, Dissolved	ug/L	ND	500	537	105	70-130	
Thallium, Dissolved	ug/L	ND	1000	774	77	70-130	
Zinc, Dissolved	ug/L	11600	1000	12400	84	70-130	

SAMPLE DUPLICATE: 1281763

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	3830	3960	3	20	
Antimony, Dissolved	ug/L	ND	ND		20	D3
Arsenic, Dissolved	ug/L	729	730	0	20	
Beryllium, Dissolved	ug/L	ND	ND		20	D3
Cadmium, Dissolved	ug/L	ND	ND		20	
Chromium, Dissolved	ug/L	253	265	5	20	
Cobalt, Dissolved	ug/L	34.3	35.7	4	20	
Copper, Dissolved	ug/L	ND	ND		20	
Iron, Dissolved	ug/L	885000	848000	4	20	
Lead, Dissolved	ug/L	84.8	90.9	7	20	
Nickel, Dissolved	ug/L	91.2	95.4	4	20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	13.9J		20	
Thallium, Dissolved	ug/L	ND	ND		20	D3
Zinc, Dissolved	ug/L	16000	14900	7	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MSV/57371 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156427001, 60156427002

METHOD BLANK: 1281397 Matrix: Water
Associated Lab Samples: 60156427001, 60156427002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: OEXT/41249 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60156427001

METHOD BLANK: 1281128 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/01/13 10:59	
2,4,6-Trichlorophenol	ug/L	ND	5.0	11/01/13 10:59	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	11/01/13 10:59	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	11/01/13 10:59	
Hexachlorocyclopentadiene	ug/L	ND	5.0	11/01/13 10:59	
Hexachloroethane	ug/L	ND	5.0	11/01/13 10:59	
Naphthalene	ug/L	ND	5.0	11/01/13 10:59	
Nitrobenzene	ug/L	ND	5.0	11/01/13 10:59	
Pentachlorophenol	ug/L	ND	5.0	11/01/13 10:59	
Phenol	ug/L	ND	5.0	11/01/13 10:59	
2,4,6-Tribromophenol (S)	%	81	39-120	11/01/13 10:59	
2-Fluorobiphenyl (S)	%	81	39-120	11/01/13 10:59	
2-Fluorophenol (S)	%	48	17-120	11/01/13 10:59	
Nitrobenzene-d5 (S)	%	83	33-120	11/01/13 10:59	
Phenol-d6 (S)	%	33	11-120	11/01/13 10:59	
Terphenyl-d14 (S)	%	88	45-120	11/01/13 10:59	

LABORATORY CONTROL SAMPLE: 1281129

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.5	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.7	85	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	59.0	118	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.6	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.6	58	24-120	
Hexachloroethane	ug/L	50	39.6	79	43-113	
Naphthalene	ug/L	50	42.2	84	48-120	
Nitrobenzene	ug/L	50	45.3	91	48-120	
Pentachlorophenol	ug/L	50	56.4	113	47-120	
Phenol	ug/L	50	19.3	39	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			85	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

MATRIX SPIKE SAMPLE: 1281130

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3030	61	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3700	74	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3100J	62	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3050	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4320	43	11-120	
Hexachloroethane	ug/L	ND	5000	2940	59	40-113	
Naphthalene	ug/L	ND	5000	3600	62	45-120	
Nitrobenzene	ug/L	ND	5000	3250	65	38-120	
Pentachlorophenol	ug/L	ND	5000	3600	72	43-135	
Phenol	ug/L	10500	5000	9800	-14	13-112	M1
2,4,6-Tribromophenol (S)	%				75	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				74	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WET/44324 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156427001

METHOD BLANK: 1281149 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/31/13 07:41	

LABORATORY CONTROL SAMPLE: 1281150

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.4	98	78-114	

MATRIX SPIKE SAMPLE: 1281153

Parameter	Units	60156397001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	41.0	100	78-114	

SAMPLE DUPLICATE: 1281152

Parameter	Units	60156502002 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	16.2	12.9	23	18	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WET/44396 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156427001

METHOD BLANK: 1283348 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	11/05/13 11:27	

LABORATORY CONTROL SAMPLE: 1283349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.9	94	64-132	

MATRIX SPIKE SAMPLE: 1283354

Parameter	Units	60156524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.4	18.1	84	64-132	

SAMPLE DUPLICATE: 1283353

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.8	5.2	27	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WET/44330
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156427001

METHOD BLANK: 1281200 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/31/13 10:02	

SAMPLE DUPLICATE: 1281201

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5580	5720	2	25	

SAMPLE DUPLICATE: 1281202

Parameter	Units	60156417001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	180	173	4	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WET/44343
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156427001

SAMPLE DUPLICATE: 1281479

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WET/44301 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156427001

METHOD BLANK: 1280401 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/04/13 07:24	

LABORATORY CONTROL SAMPLE: 1280402

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

SAMPLE DUPLICATE: 1280403

Parameter	Units	60156349001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	8.4	7.4	12	17	

SAMPLE DUPLICATE: 1280592

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	32800	30400	7	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156427001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: WETA/26902 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156427001

METHOD BLANK: 1280942 Matrix: Water
Associated Lab Samples: 60156427001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/31/13 12:00	

LABORATORY CONTROL SAMPLE: 1280943

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.6	93	90-110	

MATRIX SPIKE SAMPLE: 1280944

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75000	50000	150000	151	90-110	M1

MATRIX SPIKE SAMPLE: 1280945

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49800	50000	113000	126	90-110	M1

SAMPLE DUPLICATE: 1280952

Parameter	Units	60156311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156427001	**316-118**	EPA 200.7	MPRP/24910	EPA 200.7	ICP/19319
60156427001	**316-118**	EPA 200.7	MPRP/24944	EPA 200.7	ICP/19329
60156427001	**316-118**	EPA 245.1	MERP/7872	EPA 245.1	MERC/7829
60156427001	**316-118**	EPA 245.1	MERP/7876	EPA 245.1	MERC/7833
60156427001	**316-118**	EPA 625	OEXT/41249	EPA 625	MSSV/13102
60156427001	**316-118**	EPA 624 Low	MSV/57371		
60156427002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156427001	**316-118**	EPA 1664A	WET/44324		
60156427001	**316-118**	EPA 1664A	WET/44396		
60156427001	**316-118**	SM 2540D	WET/44330		
60156427001	**316-118**	SM 4500-H+B	WET/44343		
60156427001	**316-118**	SM 5210B	WET/44301	SM 5210B	WET/44380
60156427001	**316-118**	EPA 350.1	WETA/26914		
60156427001	**316-118**	EPA 410.4	WETA/26902		

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Sample Condition Upon Receipt

WO# : 60156427

60156427

Optional
Proj Due Date:
Proj Name:

Client Name: BARR

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ X-Road

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 ☒ ZIPL

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: S 10/30

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. PH, BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add hno3 to 316-118 BP3N 5.0/4.0 Add h2so4 to 316-118 BP3S 5.0/3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed: S — Lot # of added preservative: 125 20 / 125 13
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): OCT 18		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	2@5 VOA
		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 (I) N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/30/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

Matrix codes: 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)	60156427
1	316-118 2(BP2U) BP3U, BP3N, BP3S 5.0 5.0	OT	G	10/28/13	11:20				14	10	1	1	2						X	X	X	X	X	X	X	X	X	X	X			LOG samples as OQS 001
2	TRIP BLANK 2(DG9U) +TB								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																																

Handwritten container notes on item 1: 5(DG9U) 2(AG4U) 2(AG3S)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Creak/Feezor Engin	10/29/13	1400	[signature]	10/29/13	1400				
SITE ADDRESS: BRIDGETON LF				[signature] /PASI	10/30	0215	1.8	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-28-13

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

November 06, 2013

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

RE: Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156430001	**316-119**	Water	10/29/13 07:45	10/30/13 02:15
60156430002	**TRIP BLANK**	Water	10/29/13 07:45	10/30/13 02:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156430001	**316-119**	EPA 200.7	TJT	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JML	1
60156430002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Sample: 316-119 **Lab ID: 60156430001** Collected: 10/29/13 07:45 Received: 10/30/13 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	**6220**	ug/L	375	5	10/30/13 15:15	11/04/13 15:15	7429-90-5	
Antimony	**68.4**	ug/L	50.0	5	10/30/13 15:15	11/04/13 15:15	7440-36-0	
Arsenic	**840**	ug/L	50.0	5	10/30/13 15:15	11/04/13 15:15	7440-38-2	
Beryllium	ND	ug/L	5.0	5	10/30/13 15:15	11/04/13 15:15	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	10/30/13 15:15	11/04/13 15:15	7440-43-9	
Chromium	**302**	ug/L	25.0	5	10/30/13 15:15	11/04/13 15:15	7440-47-3	
Cobalt	**34.7**	ug/L	25.0	5	10/30/13 15:15	11/04/13 15:15	7440-48-4	
Copper	ND	ug/L	50.0	5	10/30/13 15:15	11/04/13 15:15	7440-50-8	
Iron	**946000**	ug/L	250	5	10/30/13 15:15	11/04/13 15:15	7439-89-6	M1
Lead	**136**	ug/L	25.0	5	10/30/13 15:15	11/04/13 15:15	7439-92-1	
Nickel	**117**	ug/L	25.0	5	10/30/13 15:15	11/04/13 15:15	7440-02-0	
Selenium	ND	ug/L	75.0	5	10/30/13 15:15	11/04/13 15:15	7782-49-2	
Silver	ND	ug/L	35.0	5	10/30/13 15:15	11/04/13 15:15	7440-22-4	M1
Thallium	ND	ug/L	100	5	10/30/13 15:15	11/04/13 15:15	7440-28-0	
Zinc	**15200**	ug/L	1000	20	10/30/13 15:15	11/04/13 16:09	7440-66-6	M1
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3830**	ug/L	150	2	10/31/13 18:35	11/01/13 12:01	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/31/13 18:35	11/01/13 12:08	7440-36-0	D3
Arsenic, Dissolved	**729**	ug/L	20.0	2	10/31/13 18:35	11/01/13 12:01	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/31/13 18:35	11/01/13 12:01	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:01	7440-43-9	
Chromium, Dissolved	**253**	ug/L	25.0	5	10/31/13 18:35	11/01/13 12:05	7440-47-3	
Cobalt, Dissolved	**34.3**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:01	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/31/13 18:35	11/01/13 12:01	7440-50-8	
Iron, Dissolved	**885000**	ug/L	1000	20	10/31/13 18:35	11/01/13 12:08	7439-89-6	
Lead, Dissolved	**84.8**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:01	7439-92-1	
Nickel, Dissolved	**91.2**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:01	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/31/13 18:35	11/01/13 12:05	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	10/31/13 18:35	11/01/13 12:01	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/31/13 18:35	11/01/13 12:05	7440-28-0	D3
Zinc, Dissolved	**16000**	ug/L	1000	20	10/31/13 18:35	11/01/13 12:08	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.76**	ug/L	0.20	1	10/30/13 16:00	10/31/13 11:06	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	11/01/13 09:00	11/01/13 12:30	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	10/31/13 00:00	11/01/13 20:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	67-72-1	
Naphthalene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Sample: 316-119 **Lab ID: 60156430001** Collected: 10/29/13 07:45 Received: 10/30/13 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							
Pentachlorophenol	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	87-86-5	
Phenol	**10500**	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	108-95-2	M1
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	10/31/13 00:00	11/01/13 20:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	98	%	33-120	2	10/31/13 00:00	11/01/13 20:22	4165-60-0	
2-Fluorobiphenyl (S)	70	%	39-120	2	10/31/13 00:00	11/01/13 20:22	321-60-8	
Terphenyl-d14 (S)	85	%	45-120	2	10/31/13 00:00	11/01/13 20:22	1718-51-0	
Phenol-d6 (S)	39	%	11-120	2	10/31/13 00:00	11/01/13 20:22	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	10/31/13 00:00	11/01/13 20:22	367-12-4	
2,4,6-Tribromophenol (S)	76	%	39-120	2	10/31/13 00:00	11/01/13 20:22	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		11/01/13 13:00	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		11/01/13 13:00	75-27-4	
Bromoform	ND	ug/L	200	200		11/01/13 13:00	75-25-2	
Bromomethane	ND	ug/L	1000	200		11/01/13 13:00	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		11/01/13 13:00	56-23-5	
Chloroethane	ND	ug/L	200	200		11/01/13 13:00	75-00-3	
Chloroform	ND	ug/L	200	200		11/01/13 13:00	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		11/01/13 13:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		11/01/13 13:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		11/01/13 13:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		11/01/13 13:00	156-60-5	
Ethylbenzene	ND	ug/L	200	200		11/01/13 13:00	100-41-4	
Methylene chloride	ND	ug/L	200	200		11/01/13 13:00	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		11/01/13 13:00	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		11/01/13 13:00	127-18-4	
Toluene	ND	ug/L	200	200		11/01/13 13:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		11/01/13 13:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		11/01/13 13:00	79-00-5	
Trichloroethene	ND	ug/L	200	200		11/01/13 13:00	79-01-6	M1
Vinyl chloride	ND	ug/L	200	200		11/01/13 13:00	75-01-4	
Xylene (Total)	ND	ug/L	600	200		11/01/13 13:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		11/01/13 13:00	460-00-4	D3,HS
Toluene-d8 (S)	90	%	80-120	200		11/01/13 13:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		11/01/13 13:00	17060-07-0	
Preservation pH	**6.0**		1.0	200		11/01/13 13:00		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**1090**	mg/L	5.0	1		10/30/13 11:54		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.8**	mg/L	5.0	1		11/05/13 11:28		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Sample: 316-119 **Lab ID: 60156430001** Collected: 10/29/13 07:45 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5580**	mg/L	5.0	1		10/31/13 10:04		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/31/13 13:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**32800**	mg/L	2.0	1	10/30/13 10:42	11/04/13 08:10		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**804**	mg/L	20.0	200		10/31/13 16:00	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49800**	mg/L	10000	1000		10/31/13 12:14		M1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Sample: TRIP BLANK **Lab ID: 60156430002** Collected: 10/29/13 07:45 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		10/31/13 18:05	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		10/31/13 18:05	75-27-4	
Bromoform	ND	ug/L	1.0	1		10/31/13 18:05	75-25-2	
Bromomethane	ND	ug/L	5.0	1		10/31/13 18:05	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		10/31/13 18:05	56-23-5	
Chloroethane	ND	ug/L	1.0	1		10/31/13 18:05	75-00-3	
Chloroform	ND	ug/L	1.0	1		10/31/13 18:05	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		10/31/13 18:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		10/31/13 18:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 18:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		10/31/13 18:05	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		10/31/13 18:05	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		10/31/13 18:05	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		10/31/13 18:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		10/31/13 18:05	127-18-4	
Toluene	ND	ug/L	1.0	1		10/31/13 18:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		10/31/13 18:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		10/31/13 18:05	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		10/31/13 18:05	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		10/31/13 18:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		10/31/13 18:05	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	97	%	80-120	1		10/31/13 18:05	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		10/31/13 18:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		10/31/13 18:05	17060-07-0	
Preservation pH	**6.0**		1.0	1		10/31/13 18:05		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MERP/7872
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156430001

METHOD BLANK: 1280929 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	10/31/13 10:59	

LABORATORY CONTROL SAMPLE: 1280930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280931 1280932

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	0.76	5	5	1.3	0.64	10	-2	70-130	66	20	M1,R1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MERP/7876
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156430001

METHOD BLANK: 1282003 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/01/13 12:16	

LABORATORY CONTROL SAMPLE: 1282004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1282005

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	150	114	76	70-130	

SAMPLE DUPLICATE: 1282006

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	ND		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MPRP/24910
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156430001

METHOD BLANK: 1280751 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	11/04/13 15:08	
Antimony	ug/L	ND	10.0	11/04/13 15:08	
Arsenic	ug/L	ND	10.0	11/04/13 15:08	
Beryllium	ug/L	ND	1.0	11/04/13 15:08	
Cadmium	ug/L	ND	5.0	11/04/13 15:08	
Chromium	ug/L	ND	5.0	11/04/13 15:08	
Cobalt	ug/L	ND	5.0	11/04/13 15:08	
Copper	ug/L	ND	10.0	11/04/13 15:08	
Iron	ug/L	52.6	50.0	11/04/13 15:08	
Lead	ug/L	ND	5.0	11/04/13 15:08	
Nickel	ug/L	ND	5.0	11/04/13 15:08	
Selenium	ug/L	ND	15.0	11/04/13 15:08	
Silver	ug/L	ND	7.0	11/04/13 15:08	
Thallium	ug/L	ND	20.0	11/04/13 15:08	
Zinc	ug/L	ND	50.0	11/04/13 15:08	

LABORATORY CONTROL SAMPLE: 1280752

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9620	96	85-115	
Antimony	ug/L	1000	1000	100	85-115	
Arsenic	ug/L	1000	993	99	85-115	
Beryllium	ug/L	1000	986	99	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	986	99	85-115	
Iron	ug/L	10000	9670	97	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1050	105	85-115	
Zinc	ug/L	1000	1050	105	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280753 1280754

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	6220	10000	10000	16800	16800	106	106	70-130	0	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1280753 1280754

Parameter	Units	60156430001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	68.4	1000	1000	852	838	78	77	70-130	2	7	
Arsenic	ug/L	840	1000	1000	1960	1940	112	110	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	922	930	92	93	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1020	1020	102	102	70-130	0	10	
Chromium	ug/L	302	1000	1000	1250	1260	94	95	70-130	1	10	
Cobalt	ug/L	34.7	1000	1000	950	958	91	92	70-130	1	6	
Copper	ug/L	ND	1000	1000	984	979	98	98	70-130	1	11	
Iron	ug/L	946000	10000	10000	924000	927000	-210	-185	70-130	0	10	M1
Lead	ug/L	136	1000	1000	1030	1040	89	90	70-130	2	10	
Nickel	ug/L	117	1000	1000	1040	1040	92	92	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1020	1030	102	103	70-130	1	10	
Silver	ug/L	ND	500	500	8.9J	8.4J	1	1	70-130		10	M1
Thallium	ug/L	ND	1000	1000	740	740	74	74	70-130	0	6	
Zinc	ug/L	15200	1000	1000	15700	15500	51	29	70-130	1	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MPRP/24944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156430001

METHOD BLANK: 1281760 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/01/13 11:05	
Antimony, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Arsenic, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Beryllium, Dissolved	ug/L	ND	1.0	11/01/13 11:05	
Cadmium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Chromium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Cobalt, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Copper, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Iron, Dissolved	ug/L	ND	50.0	11/01/13 11:05	
Lead, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Nickel, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Selenium, Dissolved	ug/L	ND	15.0	11/01/13 11:05	
Silver, Dissolved	ug/L	ND	7.0	11/01/13 11:05	
Thallium, Dissolved	ug/L	ND	20.0	11/01/13 11:05	
Zinc, Dissolved	ug/L	ND	50.0	11/01/13 11:05	

LABORATORY CONTROL SAMPLE: 1281761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	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	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3780	10000	13500	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1090	107	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	677	1000	1770	109	70-130	
Beryllium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1050	105	70-130	
Chromium, Dissolved	ug/L	263	1000	1210	95	70-130	
Cobalt, Dissolved	ug/L	35.1	1000	928	89	70-130	
Copper, Dissolved	ug/L	ND	1000	1010	101	70-130	
Iron, Dissolved	ug/L	851000	10000	819000	-322	70-130	M1
Lead, Dissolved	ug/L	79.3	1000	906	83	70-130	
Nickel, Dissolved	ug/L	88.6	1000	976	89	70-130	
Selenium, Dissolved	ug/L	ND	1000	1110	111	70-130	
Silver, Dissolved	ug/L	ND	500	537	105	70-130	
Thallium, Dissolved	ug/L	ND	1000	774	77	70-130	
Zinc, Dissolved	ug/L	11600	1000	12400	84	70-130	

SAMPLE DUPLICATE: 1281763

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	3830	3960	3	20	
Antimony, Dissolved	ug/L	ND	ND		20	D3
Arsenic, Dissolved	ug/L	729	730	0	20	
Beryllium, Dissolved	ug/L	ND	ND		20	D3
Cadmium, Dissolved	ug/L	ND	ND		20	
Chromium, Dissolved	ug/L	253	265	5	20	
Cobalt, Dissolved	ug/L	34.3	35.7	4	20	
Copper, Dissolved	ug/L	ND	ND		20	
Iron, Dissolved	ug/L	885000	848000	4	20	
Lead, Dissolved	ug/L	84.8	90.9	7	20	
Nickel, Dissolved	ug/L	91.2	95.4	4	20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	13.9J		20	
Thallium, Dissolved	ug/L	ND	ND		20	D3
Zinc, Dissolved	ug/L	16000	14900	7	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MSV/57371
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60156430002

METHOD BLANK: 1281397
Matrix: Water
Associated Lab Samples: 60156430002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,2-Dichloroethane	ug/L	ND	1.0	10/31/13 13:08	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/31/13 13:08	
Benzene	ug/L	ND	1.0	10/31/13 13:08	
Bromodichloromethane	ug/L	ND	1.0	10/31/13 13:08	
Bromoform	ug/L	ND	1.0	10/31/13 13:08	
Bromomethane	ug/L	ND	5.0	10/31/13 13:08	
Carbon tetrachloride	ug/L	ND	1.0	10/31/13 13:08	
Chloroethane	ug/L	ND	1.0	10/31/13 13:08	
Chloroform	ug/L	ND	1.0	10/31/13 13:08	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Ethylbenzene	ug/L	ND	1.0	10/31/13 13:08	
Methylene chloride	ug/L	ND	1.0	10/31/13 13:08	
Tetrachloroethene	ug/L	ND	1.0	10/31/13 13:08	
Toluene	ug/L	ND	1.0	10/31/13 13:08	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Trichloroethene	ug/L	ND	1.0	10/31/13 13:08	
Vinyl chloride	ug/L	ND	1.0	10/31/13 13:08	
Xylene (Total)	ug/L	ND	3.0	10/31/13 13:08	
1,2-Dichloroethane-d4 (S)	%	99	80-120	10/31/13 13:08	
4-Bromofluorobenzene (S)	%	97	80-120	10/31/13 13:08	
Toluene-d8 (S)	%	101	80-120	10/31/13 13:08	

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.4	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.8	104	59-138	
1,1,2-Trichloroethane	ug/L	20	21.1	106	69-127	
1,2-Dichloroethane	ug/L	20	22.3	111	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	20.6	103	73-129	
Bromodichloromethane	ug/L	20	18.7	94	63-129	
Bromoform	ug/L	20	20.3	101	52-123	
Bromomethane	ug/L	20	18.3	92	10-160	
Carbon tetrachloride	ug/L	20	20.4	102	70-140	
Chloroethane	ug/L	20	18.2	91	42-160	
Chloroform	ug/L	20	21.0	105	60-120	
cis-1,2-Dichloroethene	ug/L	20	20.8	104	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

LABORATORY CONTROL SAMPLE: 1281398

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.4	102	66-133	
Methylene chloride	ug/L	20	21.2	106	56-135	
Tetrachloroethene	ug/L	20	20.3	101	64-143	
Toluene	ug/L	20	20.4	102	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.8	109	67-149	
Trichloroethene	ug/L	20	19.9	100	71-130	
Vinyl chloride	ug/L	20	17.1	85	41-160	
Xylene (Total)	ug/L	60	58.3	97	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1281399

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3920	98	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3400	84	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3360	84	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3830	96	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3410	81	18-147	
Benzene	ug/L	ND	4000	3840	95	37-151	
Bromodichloromethane	ug/L	ND	4000	3480	87	35-155	
Bromoform	ug/L	ND	4000	3140	79	45-133	
Bromomethane	ug/L	ND	4000	3120	78	10-160	
Carbon tetrachloride	ug/L	ND	4000	4040	101	70-140	
Chloroethane	ug/L	ND	4000	3070	77	14-160	
Chloroform	ug/L	ND	4000	3810	95	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3660	91	19-160	
Ethylbenzene	ug/L	ND	4000	3570	89	37-154	
Methylene chloride	ug/L	265	4000	3800	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3860	96	64-148	
Toluene	ug/L	ND	4000	3710	93	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3810	95	54-156	
Trichloroethene	ug/L	ND	4000	3990	100	71-157	
Vinyl chloride	ug/L	ND	4000	3170	79	10-160	
Xylene (Total)	ug/L	ND	12000	10500	88	12-153	
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			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: MSV/57402
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60156430001

METHOD BLANK: 1282146 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/01/13 12:00	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/01/13 12:00	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/01/13 12:00	
1,2-Dichloroethane	ug/L	ND	1.0	11/01/13 12:00	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/01/13 12:00	
Benzene	ug/L	ND	1.0	11/01/13 12:00	
Bromodichloromethane	ug/L	ND	1.0	11/01/13 12:00	
Bromoform	ug/L	ND	1.0	11/01/13 12:00	
Bromomethane	ug/L	ND	5.0	11/01/13 12:00	
Carbon tetrachloride	ug/L	ND	1.0	11/01/13 12:00	
Chloroethane	ug/L	ND	1.0	11/01/13 12:00	
Chloroform	ug/L	ND	1.0	11/01/13 12:00	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 12:00	
Ethylbenzene	ug/L	ND	1.0	11/01/13 12:00	
Methylene chloride	ug/L	ND	1.0	11/01/13 12:00	
Tetrachloroethene	ug/L	ND	1.0	11/01/13 12:00	
Toluene	ug/L	ND	1.0	11/01/13 12:00	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 12:00	
Trichloroethene	ug/L	ND	1.0	11/01/13 12:00	
Vinyl chloride	ug/L	ND	1.0	11/01/13 12:00	
Xylene (Total)	ug/L	ND	3.0	11/01/13 12:00	
1,2-Dichloroethane-d4 (S)	%	96	80-120	11/01/13 12:00	
4-Bromofluorobenzene (S)	%	95	80-120	11/01/13 12:00	
Toluene-d8 (S)	%	95	80-120	11/01/13 12:00	

LABORATORY CONTROL SAMPLE: 1282147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.6	98	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	18.8	94	59-138	
1,1,2-Trichloroethane	ug/L	20	20.7	103	69-127	
1,2-Dichloroethane	ug/L	20	20.6	103	71-129	
1,4-Dichlorobenzene	ug/L	20	18.4	92	68-124	
Benzene	ug/L	20	20.0	100	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	19.4	97	52-123	
Bromomethane	ug/L	20	13.1	65	10-160	
Carbon tetrachloride	ug/L	20	19.7	98	70-140	
Chloroethane	ug/L	20	16.3	81	42-160	
Chloroform	ug/L	20	19.4	97	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.5	98	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

LABORATORY CONTROL SAMPLE: 1282147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	20.1	100	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	20.2	101	64-143	
Toluene	ug/L	20	19.2	96	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.7	98	67-149	
Trichloroethene	ug/L	20	19.5	97	71-130	
Vinyl chloride	ug/L	20	15.3	76	41-160	
Xylene (Total)	ug/L	60	58.7	98	67-130	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			97	80-120	

MATRIX SPIKE SAMPLE: 1282148

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3020	75	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2560	64	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2750	69	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2860	71	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	2690	62	18-147	
Benzene	ug/L	ND	4000	2910	73	37-151	
Bromodichloromethane	ug/L	ND	4000	2660	66	35-155	
Bromoform	ug/L	ND	4000	2550	64	45-133	
Bromomethane	ug/L	ND	4000	1820	46	10-160	
Carbon tetrachloride	ug/L	ND	4000	3230	81	70-140	
Chloroethane	ug/L	ND	4000	2440	61	14-160	
Chloroform	ug/L	ND	4000	2910	73	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2830	71	19-160	
Ethylbenzene	ug/L	ND	4000	2870	72	37-154	
Methylene chloride	ug/L	ND	4000	3000	71	15-156	
Tetrachloroethene	ug/L	ND	4000	2870	72	64-148	
Toluene	ug/L	ND	4000	2770	69	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2990	75	54-156	
Trichloroethene	ug/L	ND	4000	2740	69	71-157	M1
Vinyl chloride	ug/L	ND	4000	2530	63	10-160	
Xylene (Total)	ug/L	ND	12000	8260	69	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	HS
Toluene-d8 (S)	%				98	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: OEXT/41249
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156430001

METHOD BLANK: 1281128 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/01/13 10:59	
2,4,6-Trichlorophenol	ug/L	ND	5.0	11/01/13 10:59	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	11/01/13 10:59	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	11/01/13 10:59	
Hexachlorocyclopentadiene	ug/L	ND	5.0	11/01/13 10:59	
Hexachloroethane	ug/L	ND	5.0	11/01/13 10:59	
Naphthalene	ug/L	ND	5.0	11/01/13 10:59	
Nitrobenzene	ug/L	ND	5.0	11/01/13 10:59	
Pentachlorophenol	ug/L	ND	5.0	11/01/13 10:59	
Phenol	ug/L	ND	5.0	11/01/13 10:59	
2,4,6-Tribromophenol (S)	%	81	39-120	11/01/13 10:59	
2-Fluorobiphenyl (S)	%	81	39-120	11/01/13 10:59	
2-Fluorophenol (S)	%	48	17-120	11/01/13 10:59	
Nitrobenzene-d5 (S)	%	83	33-120	11/01/13 10:59	
Phenol-d6 (S)	%	33	11-120	11/01/13 10:59	
Terphenyl-d14 (S)	%	88	45-120	11/01/13 10:59	

LABORATORY CONTROL SAMPLE: 1281129

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.5	79	46-120	
2,4,6-Trichlorophenol	ug/L	50	42.7	85	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	59.0	118	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.6	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	57.6	58	24-120	
Hexachloroethane	ug/L	50	39.6	79	43-113	
Naphthalene	ug/L	50	42.2	84	48-120	
Nitrobenzene	ug/L	50	45.3	91	48-120	
Pentachlorophenol	ug/L	50	56.4	113	47-120	
Phenol	ug/L	50	19.3	39	16-112	
2,4,6-Tribromophenol (S)	%			86	39-120	
2-Fluorobiphenyl (S)	%			85	39-120	
2-Fluorophenol (S)	%			47	17-120	
Nitrobenzene-d5 (S)	%			85	33-120	
Phenol-d6 (S)	%			32	11-120	
Terphenyl-d14 (S)	%			94	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

MATRIX SPIKE SAMPLE: 1281130

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5000	3030	61	44-120	
2,4,6-Trichlorophenol	ug/L	ND	5000	3700	74	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	5000	3100J	62	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	5000	3050	61	39-116	
Hexachlorocyclopentadiene	ug/L	ND	10000	4320	43	11-120	
Hexachloroethane	ug/L	ND	5000	2940	59	40-113	
Naphthalene	ug/L	ND	5000	3600	62	45-120	
Nitrobenzene	ug/L	ND	5000	3250	65	38-120	
Pentachlorophenol	ug/L	ND	5000	3600	72	43-135	
Phenol	ug/L	10500	5000	9800	-14	13-112	M1
2,4,6-Tribromophenol (S)	%				75	39-120	
2-Fluorobiphenyl (S)	%				64	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				92	33-120	
Phenol-d6 (S)	%				34	11-120	
Terphenyl-d14 (S)	%				74	45-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WET/44317 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156430001

METHOD BLANK: 1280685 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/30/13 11:52	

LABORATORY CONTROL SAMPLE: 1280686

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.0	98	78-114	

MATRIX SPIKE SAMPLE: 1280691

Parameter	Units	60156262003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43.5	43.3	96	78-114	

SAMPLE DUPLICATE: 1280689

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	1090	992	9	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WET/44396 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156430001

METHOD BLANK: 1283348 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	11/05/13 11:27	

LABORATORY CONTROL SAMPLE: 1283349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.9	94	64-132	

MATRIX SPIKE SAMPLE: 1283354

Parameter	Units	60156524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.4	18.1	84	64-132	

SAMPLE DUPLICATE: 1283353

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.8	5.2	27	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WET/44330 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156430001

METHOD BLANK: 1281200 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/31/13 10:02	

SAMPLE DUPLICATE: 1281201

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5580	5720	2	25	

SAMPLE DUPLICATE: 1281202

Parameter	Units	60156417001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	180	173	4	25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WET/44343
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156430001

SAMPLE DUPLICATE: 1281479

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WET/44301 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156430001

METHOD BLANK: 1280401 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/04/13 07:24	

LABORATORY CONTROL SAMPLE: 1280402

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

SAMPLE DUPLICATE: 1280403

Parameter	Units	60156349001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	8.4	7.4	12	17	

SAMPLE DUPLICATE: 1280592

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	32800	30400	7	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156430001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

QC Batch: WETA/26902 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60156430001

METHOD BLANK: 1280942 Matrix: Water
Associated Lab Samples: 60156430001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	10/31/13 12:00	

LABORATORY CONTROL SAMPLE: 1280943

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.6	93	90-110	

MATRIX SPIKE SAMPLE: 1280944

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	75000	50000	150000	151	90-110	M1

MATRIX SPIKE SAMPLE: 1280945

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49800	50000	113000	126	90-110	M1

SAMPLE DUPLICATE: 1280952

Parameter	Units	60156311001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	4J		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-119
Pace Project No.: 60156430

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156430001	**316-119**	EPA 200.7	MPRP/24910	EPA 200.7	ICP/19319
60156430001	**316-119**	EPA 200.7	MPRP/24944	EPA 200.7	ICP/19329
60156430001	**316-119**	EPA 245.1	MERP/7872	EPA 245.1	MERC/7829
60156430001	**316-119**	EPA 245.1	MERP/7876	EPA 245.1	MERC/7833
60156430001	**316-119**	EPA 625	OEXT/41249	EPA 625	MSSV/13102
60156430001	**316-119**	EPA 624 Low	MSV/57402		
60156430002	**TRIP BLANK**	EPA 624 Low	MSV/57371		
60156430001	**316-119**	EPA 1664A	WET/44317		
60156430001	**316-119**	EPA 1664A	WET/44396		
60156430001	**316-119**	SM 2540D	WET/44330		
60156430001	**316-119**	SM 4500-H+B	WET/44343		
60156430001	**316-119**	SM 5210B	WET/44301	SM 5210B	WET/44380
60156430001	**316-119**	EPA 350.1	WETA/26914		
60156430001	**316-119**	EPA 410.4	WETA/26902		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60156430

60156430

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 ☒ ziplock

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

Cooler Temperature: 3.4

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JT 10/30

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add hno3 to 316-119 BP3N 5.5/4.0 Add h2so4 to 316-119 BP3S 5.5/2.5
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 JT Lot # of added preservative 12513 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): OCT 18		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	5 of 5 VOA 316-119 Mlg
		16. FOOTNOTE HISTORICAL INSTRUCTIONS
Project sampled in USDA Regulated Area:	☐Yes ☒No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/30/13

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A — Required Client Information:

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

Section B — Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.:	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C — Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency:

State / Location: Missouri

Requested Analysis Filtered (Y/N)

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)	60154435
1	316-115 2(BP2U) BP3U, BP3N, BP3S 5.5 5.5	OT	G	10/29/13	0745		2(AG4U)		14	10	3	1	1	2(AG3S)			5(DG9U)		X	X	X	X	X	X	X	X	X	X	X	
2	TRIP BLANK 2(DG4U) TB								2	2																X				
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

LOG samples as OQS (Y) OR

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT BILL ABERNATHY 314-502-1299	JULIE CROAK/ Feezor Eng.	10/29/13	1400	Jennifer Hardin	10/29/13	1400				
SITE ADDRESS: BRIDGETON LF				Shirdale McK/PAST	10/30	0215	3.4	Y	Y	Y
13570 ST CHARLES ROCK RD										
BRIDGETON MO 63044										

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

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 10-29-13

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(913)599-5665

November 04, 2013

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

RE: Project: OUTFALL #3
Pace Project No.: 60156471

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 30, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: OUTFALL #3
Pace Project No.: 60156471

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: OUTFALL #3
Pace Project No.: 60156471

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156471001	**OUTFALL #3**	Water	10/26/13 18:20	10/30/13 02:15

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SAMPLE ANALYTE COUNT

Project: OUTFALL #3
Pace Project No.: 60156471

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156471001	**OUTFALL #3**	EPA 8270	JMT	73
		EPA 5030B/8260	PRG	69

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ANALYTICAL RESULTS

Project: OUTFALL #3
Pace Project No.: 60156471

Sample: OUTFALL #3 **Lab ID: 60156471001** Collected: 10/26/13 18:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Acenaphthene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	83-32-9	
Acenaphthylene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	208-96-8	
Anthracene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	120-12-7	
Benzo(a)anthracene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	56-55-3	
Benzo(a)pyrene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	207-08-9	
Benzoic acid	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	65-85-0	
Benzyl alcohol	ND	ug/L	20.0	1	10/31/13 00:00	11/01/13 18:17	100-51-6	
4-Bromophenylphenyl ether	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	101-55-3	
Butylbenzylphthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	85-68-7	
Carbazole	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	86-74-8	
4-Chloro-3-methylphenol	ND	ug/L	20.0	1	10/31/13 00:00	11/01/13 18:17	59-50-7	
4-Chloroaniline	ND	ug/L	20.0	1	10/31/13 00:00	11/01/13 18:17	106-47-8	
bis(2-Chloroethoxy)methane	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	39638-32-9	
2-Chloronaphthalene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	91-58-7	
2-Chlorophenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	95-57-8	
4-Chlorophenylphenyl ether	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	7005-72-3	
Chrysene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	218-01-9	
Dibenz(a,h)anthracene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	53-70-3	
Dibenzofuran	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	132-64-9	
1,2-Dichlorobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	106-46-7	
3,3'-Dichlorobenzidine	ND	ug/L	20.0	1	10/31/13 00:00	11/01/13 18:17	91-94-1	
2,4-Dichlorophenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	120-83-2	
Diethylphthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	84-66-2	
2,4-Dimethylphenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	105-67-9	
Dimethylphthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	131-11-3	
Di-n-butylphthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	84-74-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	534-52-1	
2,4-Dinitrophenol	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	606-20-2	
Di-n-octylphthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	117-84-0	
bis(2-Ethylhexyl)phthalate	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	117-81-7	
Fluoranthene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	206-44-0	
Fluorene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	87-68-3	
Hexachlorobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	77-47-4	
Hexachloroethane	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	193-39-5	
Isophorone	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	78-59-1	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: OUTFALL #3
Pace Project No.: 60156471

Sample: OUTFALL #3 **Lab ID: 60156471001** Collected: 10/26/13 18:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Methylnaphthalene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	95-48-7	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17		
Naphthalene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	91-20-3	
2-Nitroaniline	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	88-74-4	
3-Nitroaniline	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	99-09-2	
4-Nitroaniline	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	100-01-6	
Nitrobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	98-95-3	
2-Nitrophenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	88-75-5	
4-Nitrophenol	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	100-02-7	
N-Nitroso-di-n-propylamine	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	621-64-7	
N-Nitrosodiphenylamine	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	86-30-6	
Pentachlorophenol	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	87-86-5	
Phenanthrene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	85-01-8	
Phenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	108-95-2	
Pyrene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	129-00-0	
Pyridine	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	110-86-1	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	120-82-1	
2,4,5-Trichlorophenol	ND	ug/L	50.0	1	10/31/13 00:00	11/01/13 18:17	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	10.0	1	10/31/13 00:00	11/01/13 18:17	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	80	%	10-135	1	10/31/13 00:00	11/01/13 18:17	4165-60-0	
2-Fluorobiphenyl (S)	72	%	19-124	1	10/31/13 00:00	11/01/13 18:17	321-60-8	
Terphenyl-d14 (S)	88	%	24-131	1	10/31/13 00:00	11/01/13 18:17	1718-51-0	
Phenol-d6 (S)	32	%	10-120	1	10/31/13 00:00	11/01/13 18:17	13127-88-3	
2-Fluorophenol (S)	44	%	13-120	1	10/31/13 00:00	11/01/13 18:17	367-12-4	
2,4,6-Tribromophenol (S)	77	%	29-121	1	10/31/13 00:00	11/01/13 18:17	118-79-6	
8260 MSV	Analytical Method: EPA 5030B/8260							
Acetone	**21.2**	ug/L	10.0	1		11/01/13 10:31	67-64-1	
Benzene	ND	ug/L	1.0	1		11/01/13 10:31	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		11/01/13 10:31	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		11/01/13 10:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		11/01/13 10:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/01/13 10:31	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/01/13 10:31	74-83-9	
2-Butanone (MEK)	**17.5**	ug/L	10.0	1		11/01/13 10:31	78-93-3	
n-Butylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	104-51-8	
sec-Butylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	98-06-6	
Carbon disulfide	ND	ug/L	5.0	1		11/01/13 10:31	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		11/01/13 10:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	108-90-7	
Chloroethane	ND	ug/L	1.0	1		11/01/13 10:31	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/01/13 10:31	67-66-3	
Chloromethane	ND	ug/L	1.0	1		11/01/13 10:31	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 10:31	95-49-8	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: OUTFALL #3
Pace Project No.: 60156471

Sample: OUTFALL #3 **Lab ID: 60156471001** Collected: 10/26/13 18:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
4-Chlorotoluene	ND	ug/L	1.0	1		11/01/13 10:31	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.5	1		11/01/13 10:31	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		11/01/13 10:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		11/01/13 10:31	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		11/01/13 10:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		11/01/13 10:31	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		11/01/13 10:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/01/13 10:31	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	1.0	1		11/01/13 10:31	540-59-0	
1,1-Dichloroethene	ND	ug/L	1.0	1		11/01/13 10:31	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 10:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/01/13 10:31	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		11/01/13 10:31	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		11/01/13 10:31	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		11/01/13 10:31	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		11/01/13 10:31	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/13 10:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		11/01/13 10:31	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		11/01/13 10:31	87-68-3	
2-Hexanone	ND	ug/L	10.0	1		11/01/13 10:31	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		11/01/13 10:31	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		11/01/13 10:31	99-87-6	
Methylene chloride	ND	ug/L	1.0	1		11/01/13 10:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		11/01/13 10:31	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		11/01/13 10:31	1634-04-4	
Naphthalene	ND	ug/L	10.0	1		11/01/13 10:31	91-20-3	
n-Propylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	103-65-1	
Styrene	ND	ug/L	1.0	1		11/01/13 10:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 10:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/01/13 10:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/01/13 10:31	127-18-4	
Toluene	ND	ug/L	1.0	1		11/01/13 10:31	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		11/01/13 10:31	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/01/13 10:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/01/13 10:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/01/13 10:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		11/01/13 10:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	1		11/01/13 10:31	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		11/01/13 10:31	108-67-8	
Vinyl chloride	ND	ug/L	1.0	1		11/01/13 10:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/01/13 10:31	1330-20-7	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: OUTFALL #3
Pace Project No.: 60156471

Sample: OUTFALL #3 **Lab ID: 60156471001** Collected: 10/26/13 18:20 Received: 10/30/13 02:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 5030B/8260							
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		11/01/13 10:31	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	80-120	1		11/01/13 10:31	17060-07-0	
Toluene-d8 (S)	101	%	80-120	1		11/01/13 10:31	2037-26-5	
Preservation pH	**7.0**		0.10	1		11/01/13 10:31		

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

QC Batch: MSV/57391 Analysis Method: EPA 5030B/8260
QC Batch Method: EPA 5030B/8260 Analysis Description: 8260 MSV Water 7 day
Associated Lab Samples: 60156471001

METHOD BLANK: 1282024 Matrix: Water
Associated Lab Samples: 60156471001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,1,1-Trichloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,1-Dichloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,1-Dichloroethene	ug/L	ND	1.0	11/01/13 10:16	
1,1-Dichloropropene	ug/L	ND	1.0	11/01/13 10:16	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
1,2,3-Trichloropropane	ug/L	ND	2.5	11/01/13 10:16	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	11/01/13 10:16	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	11/01/13 10:16	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	11/01/13 10:16	
1,2-Dichlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
1,2-Dichloroethane	ug/L	ND	1.0	11/01/13 10:16	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	11/01/13 10:16	
1,2-Dichloropropane	ug/L	ND	1.0	11/01/13 10:16	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	11/01/13 10:16	
1,3-Dichlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
1,3-Dichloropropane	ug/L	ND	1.0	11/01/13 10:16	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
2,2-Dichloropropane	ug/L	ND	1.0	11/01/13 10:16	
2-Butanone (MEK)	ug/L	ND	10.0	11/01/13 10:16	
2-Chlorotoluene	ug/L	ND	1.0	11/01/13 10:16	
2-Hexanone	ug/L	ND	10.0	11/01/13 10:16	
4-Chlorotoluene	ug/L	ND	1.0	11/01/13 10:16	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	11/01/13 10:16	
Acetone	ug/L	ND	10.0	11/01/13 10:16	
Benzene	ug/L	ND	1.0	11/01/13 10:16	
Bromobenzene	ug/L	ND	1.0	11/01/13 10:16	
Bromochloromethane	ug/L	ND	1.0	11/01/13 10:16	
Bromodichloromethane	ug/L	ND	1.0	11/01/13 10:16	
Bromoform	ug/L	ND	1.0	11/01/13 10:16	
Bromomethane	ug/L	ND	5.0	11/01/13 10:16	
Carbon disulfide	ug/L	ND	5.0	11/01/13 10:16	
Carbon tetrachloride	ug/L	ND	1.0	11/01/13 10:16	
Chlorobenzene	ug/L	ND	1.0	11/01/13 10:16	
Chloroethane	ug/L	ND	1.0	11/01/13 10:16	
Chloroform	ug/L	ND	1.0	11/01/13 10:16	
Chloromethane	ug/L	ND	1.0	11/01/13 10:16	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 10:16	
cis-1,3-Dichloropropene	ug/L	ND	1.0	11/01/13 10:16	
Dibromochloromethane	ug/L	ND	1.0	11/01/13 10:16	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

METHOD BLANK: 1282024 Matrix: Water

Associated Lab Samples: 60156471001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	11/01/13 10:16	
Dichlorodifluoromethane	ug/L	ND	1.0	11/01/13 10:16	
Ethylbenzene	ug/L	ND	1.0	11/01/13 10:16	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	11/01/13 10:16	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	11/01/13 10:16	
Methyl-tert-butyl ether	ug/L	ND	1.0	11/01/13 10:16	
Methylene chloride	ug/L	ND	1.0	11/01/13 10:16	
n-Butylbenzene	ug/L	ND	1.0	11/01/13 10:16	
n-Propylbenzene	ug/L	ND	1.0	11/01/13 10:16	
Naphthalene	ug/L	ND	10.0	11/01/13 10:16	
p-Isopropyltoluene	ug/L	ND	1.0	11/01/13 10:16	
sec-Butylbenzene	ug/L	ND	1.0	11/01/13 10:16	
Styrene	ug/L	ND	1.0	11/01/13 10:16	
tert-Butylbenzene	ug/L	ND	1.0	11/01/13 10:16	
Tetrachloroethene	ug/L	ND	1.0	11/01/13 10:16	
Toluene	ug/L	ND	1.0	11/01/13 10:16	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/01/13 10:16	
trans-1,3-Dichloropropene	ug/L	ND	1.0	11/01/13 10:16	
Trichloroethene	ug/L	ND	1.0	11/01/13 10:16	
Trichlorofluoromethane	ug/L	ND	1.0	11/01/13 10:16	
Vinyl chloride	ug/L	ND	1.0	11/01/13 10:16	
Xylene (Total)	ug/L	ND	3.0	11/01/13 10:16	
1,2-Dichloroethane-d4 (S)	%	104	80-120	11/01/13 10:16	
4-Bromofluorobenzene (S)	%	90	80-120	11/01/13 10:16	
Toluene-d8 (S)	%	114	80-120	11/01/13 10:16	

LABORATORY CONTROL SAMPLE: 1282025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.9	100	79-121	
1,1,1-Trichloroethane	ug/L	20	19.3	97	75-124	
1,1,2,2-Tetrachloroethane	ug/L	20	19.7	98	73-120	
1,1,2-Trichloroethane	ug/L	20	18.9	95	76-120	
1,1-Dichloroethane	ug/L	20	17.7	89	73-120	
1,1-Dichloroethene	ug/L	20	19.6	98	70-127	
1,1-Dichloropropene	ug/L	20	19.7	99	79-124	
1,2,3-Trichlorobenzene	ug/L	20	20.4	102	68-130	
1,2,3-Trichloropropane	ug/L	20	20.6	103	72-124	
1,2,4-Trichlorobenzene	ug/L	20	19.3	97	73-125	
1,2,4-Trimethylbenzene	ug/L	20	19.8	99	76-120	
1,2-Dibromo-3-chloropropane	ug/L	20	17.3	86	68-126	
1,2-Dibromoethane (EDB)	ug/L	20	19.0	95	79-121	
1,2-Dichlorobenzene	ug/L	20	19.3	96	79-120	
1,2-Dichloroethane	ug/L	20	19.5	97	72-122	
1,2-Dichloroethene (Total)	ug/L	40	37.4	93	77-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

LABORATORY CONTROL SAMPLE: 1282025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	20	19.0	95	77-120	
1,3,5-Trimethylbenzene	ug/L	20	20.2	101	75-120	
1,3-Dichlorobenzene	ug/L	20	18.6	93	80-120	
1,3-Dichloropropane	ug/L	20	18.3	92	76-120	
1,4-Dichlorobenzene	ug/L	20	19.0	95	80-120	
2,2-Dichloropropane	ug/L	20	12.5	62	52-135	
2-Butanone (MEK)	ug/L	100	93.6	94	69-124	
2-Chlorotoluene	ug/L	20	19.3	96	78-120	
2-Hexanone	ug/L	100	101	101	70-125	
4-Chlorotoluene	ug/L	20	19.4	97	80-120	
4-Methyl-2-pentanone (MIBK)	ug/L	100	96.0	96	72-123	
Acetone	ug/L	100	85.8	86	60-126	
Benzene	ug/L	20	18.7	94	73-122	
Bromobenzene	ug/L	20	18.8	94	79-120	
Bromochloromethane	ug/L	20	18.3	91	76-125	
Bromodichloromethane	ug/L	20	19.2	96	73-120	
Bromoform	ug/L	20	19.1	96	74-120	
Bromomethane	ug/L	20	14.1	71	40-146	
Carbon disulfide	ug/L	20	19.9	99	62-125	
Carbon tetrachloride	ug/L	20	22.9	115	73-125	
Chlorobenzene	ug/L	20	19.1	96	80-120	
Chloroethane	ug/L	20	16.7	84	56-159	
Chloroform	ug/L	20	19.2	96	76-120	
Chloromethane	ug/L	20	10.1	51	40-148	
cis-1,2-Dichloroethene	ug/L	20	18.2	91	69-120	
cis-1,3-Dichloropropene	ug/L	20	19.1	96	76-120	
Dibromochloromethane	ug/L	20	19.6	98	79-121	
Dibromomethane	ug/L	20	18.1	91	77-120	
Dichlorodifluoromethane	ug/L	20	13.0	65	40-141	
Ethylbenzene	ug/L	20	18.7	93	76-123	
Hexachloro-1,3-butadiene	ug/L	20	21.6	108	69-125	
Isopropylbenzene (Cumene)	ug/L	20	21.0	105	80-130	
Methyl-tert-butyl ether	ug/L	20	14.4	72	67-128	
Methylene chloride	ug/L	20	18.5	92	71-123	
n-Butylbenzene	ug/L	20	19.7	98	77-124	
n-Propylbenzene	ug/L	20	18.8	94	78-120	
Naphthalene	ug/L	20	20.2	101	64-127	
p-Isopropyltoluene	ug/L	20	20.2	101	78-120	
sec-Butylbenzene	ug/L	20	20.3	101	77-122	
Styrene	ug/L	20	18.4	92	79-120	
tert-Butylbenzene	ug/L	20	19.6	98	76-123	
Tetrachloroethene	ug/L	20	18.4	92	79-122	
Toluene	ug/L	20	18.3	91	76-122	
trans-1,2-Dichloroethene	ug/L	20	19.2	96	78-126	
trans-1,3-Dichloropropene	ug/L	20	21.5	107	79-124	
Trichloroethene	ug/L	20	18.5	93	76-120	
Trichlorofluoromethane	ug/L	20	17.2	86	69-133	
Vinyl chloride	ug/L	20	15.5	77	57-140	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

LABORATORY CONTROL SAMPLE: 1282025

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	56.3	94	76-122	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			101	80-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

QC Batch: OEXT/41247
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 Water MSSV
Associated Lab Samples: 60156471001

METHOD BLANK: 1281124
Matrix: Water
Associated Lab Samples: 60156471001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	10.0	11/01/13 10:59	
1,2-Dichlorobenzene	ug/L	ND	10.0	11/01/13 10:59	
1,3-Dichlorobenzene	ug/L	ND	10.0	11/01/13 10:59	
1,4-Dichlorobenzene	ug/L	ND	10.0	11/01/13 10:59	
2,4,5-Trichlorophenol	ug/L	ND	50.0	11/01/13 10:59	
2,4,6-Trichlorophenol	ug/L	ND	10.0	11/01/13 10:59	
2,4-Dichlorophenol	ug/L	ND	10.0	11/01/13 10:59	
2,4-Dimethylphenol	ug/L	ND	10.0	11/01/13 10:59	
2,4-Dinitrophenol	ug/L	ND	50.0	11/01/13 10:59	
2,4-Dinitrotoluene	ug/L	ND	10.0	11/01/13 10:59	
2,6-Dinitrotoluene	ug/L	ND	10.0	11/01/13 10:59	
2-Chloronaphthalene	ug/L	ND	10.0	11/01/13 10:59	
2-Chlorophenol	ug/L	ND	10.0	11/01/13 10:59	
2-Methylnaphthalene	ug/L	ND	10.0	11/01/13 10:59	
2-Methylphenol(o-Cresol)	ug/L	ND	10.0	11/01/13 10:59	
2-Nitroaniline	ug/L	ND	50.0	11/01/13 10:59	
2-Nitrophenol	ug/L	ND	10.0	11/01/13 10:59	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	10.0	11/01/13 10:59	
3,3'-Dichlorobenzidine	ug/L	ND	20.0	11/01/13 10:59	
3-Nitroaniline	ug/L	ND	50.0	11/01/13 10:59	
4,6-Dinitro-2-methylphenol	ug/L	ND	50.0	11/01/13 10:59	
4-Bromophenylphenyl ether	ug/L	ND	10.0	11/01/13 10:59	
4-Chloro-3-methylphenol	ug/L	ND	20.0	11/01/13 10:59	
4-Chloroaniline	ug/L	ND	20.0	11/01/13 10:59	
4-Chlorophenylphenyl ether	ug/L	ND	10.0	11/01/13 10:59	
4-Nitroaniline	ug/L	ND	50.0	11/01/13 10:59	
4-Nitrophenol	ug/L	ND	50.0	11/01/13 10:59	
Acenaphthene	ug/L	ND	10.0	11/01/13 10:59	
Acenaphthylene	ug/L	ND	10.0	11/01/13 10:59	
Anthracene	ug/L	ND	10.0	11/01/13 10:59	
Benzo(a)anthracene	ug/L	ND	10.0	11/01/13 10:59	
Benzo(a)pyrene	ug/L	ND	10.0	11/01/13 10:59	
Benzo(b)fluoranthene	ug/L	ND	10.0	11/01/13 10:59	
Benzo(g,h,i)perylene	ug/L	ND	10.0	11/01/13 10:59	
Benzo(k)fluoranthene	ug/L	ND	10.0	11/01/13 10:59	
Benzoic acid	ug/L	ND	50.0	11/01/13 10:59	
Benzyl alcohol	ug/L	ND	20.0	11/01/13 10:59	
bis(2-Chloroethoxy)methane	ug/L	ND	10.0	11/01/13 10:59	
bis(2-Chloroethyl) ether	ug/L	ND	10.0	11/01/13 10:59	
bis(2-Chloroisopropyl) ether	ug/L	ND	10.0	11/01/13 10:59	
bis(2-Ethylhexyl)phthalate	ug/L	ND	10.0	11/01/13 10:59	
Butylbenzylphthalate	ug/L	ND	10.0	11/01/13 10:59	
Carbazole	ug/L	ND	10.0	11/01/13 10:59	

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

METHOD BLANK: 1281124 Matrix: Water

Associated Lab Samples: 60156471001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chrysene	ug/L	ND	10.0	11/01/13 10:59	
Di-n-butylphthalate	ug/L	ND	10.0	11/01/13 10:59	
Di-n-octylphthalate	ug/L	ND	10.0	11/01/13 10:59	
Dibenz(a,h)anthracene	ug/L	ND	10.0	11/01/13 10:59	
Dibenzofuran	ug/L	ND	10.0	11/01/13 10:59	
Diethylphthalate	ug/L	ND	10.0	11/01/13 10:59	
Dimethylphthalate	ug/L	ND	10.0	11/01/13 10:59	
Fluoranthene	ug/L	ND	10.0	11/01/13 10:59	
Fluorene	ug/L	ND	10.0	11/01/13 10:59	
Hexachloro-1,3-butadiene	ug/L	ND	10.0	11/01/13 10:59	
Hexachlorobenzene	ug/L	ND	10.0	11/01/13 10:59	
Hexachlorocyclopentadiene	ug/L	ND	10.0	11/01/13 10:59	
Hexachloroethane	ug/L	ND	10.0	11/01/13 10:59	
Indeno(1,2,3-cd)pyrene	ug/L	ND	10.0	11/01/13 10:59	
Isophorone	ug/L	ND	10.0	11/01/13 10:59	
N-Nitroso-di-n-propylamine	ug/L	ND	10.0	11/01/13 10:59	
N-Nitrosodiphenylamine	ug/L	ND	10.0	11/01/13 10:59	
Naphthalene	ug/L	ND	10.0	11/01/13 10:59	
Nitrobenzene	ug/L	ND	10.0	11/01/13 10:59	
Pentachlorophenol	ug/L	ND	50.0	11/01/13 10:59	
Phenanthrene	ug/L	ND	10.0	11/01/13 10:59	
Phenol	ug/L	ND	10.0	11/01/13 10:59	
Pyrene	ug/L	ND	10.0	11/01/13 10:59	
Pyridine	ug/L	ND	10.0	11/01/13 10:59	
2,4,6-Tribromophenol (S)	%	82	29-121	11/01/13 10:59	
2-Fluorobiphenyl (S)	%	83	19-124	11/01/13 10:59	
2-Fluorophenol (S)	%	48	13-120	11/01/13 10:59	
Nitrobenzene-d5 (S)	%	84	10-135	11/01/13 10:59	
Phenol-d6 (S)	%	33	10-120	11/01/13 10:59	
Terphenyl-d14 (S)	%	90	24-131	11/01/13 10:59	

LABORATORY CONTROL SAMPLE: 1281125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.1	80	45-120	
1,2-Dichlorobenzene	ug/L	50	40.4	81	45-120	
1,3-Dichlorobenzene	ug/L	50	40.0	80	44-120	
1,4-Dichlorobenzene	ug/L	50	40.5	81	44-120	
2,4,5-Trichlorophenol	ug/L	50	44.2J	88	50-120	
2,4,6-Trichlorophenol	ug/L	50	43.1	86	49-120	
2,4-Dichlorophenol	ug/L	50	42.2	84	48-120	
2,4-Dimethylphenol	ug/L	50	40.4	81	35-120	
2,4-Dinitrophenol	ug/L	50	57.0	114	21-120	
2,4-Dinitrotoluene	ug/L	50	47.6	95	52-120	
2,6-Dinitrotoluene	ug/L	50	47.3	95	53-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

LABORATORY CONTROL SAMPLE: 1281125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2-Chloronaphthalene	ug/L	50	44.3	89	49-120	
2-Chlorophenol	ug/L	50	40.2	80	47-120	
2-Methylnaphthalene	ug/L	50	44.4	89	46-120	
2-Methylphenol(o-Cresol)	ug/L	50	37.5	75	40-120	
2-Nitroaniline	ug/L	50	50.3	101	51-120	
2-Nitrophenol	ug/L	50	42.5	85	47-120	
3&4-Methylphenol(m&p Cresol)	ug/L	50	33.8	68	34-120	
3,3'-Dichlorobenzidine	ug/L	50	60.4	121	28-160	
3-Nitroaniline	ug/L	50	56.9	114	43-157	
4,6-Dinitro-2-methylphenol	ug/L	50	52.9	106	42-120	
4-Bromophenylphenyl ether	ug/L	50	46.2	92	52-120	
4-Chloro-3-methylphenol	ug/L	50	43.9	88	48-120	
4-Chloroaniline	ug/L	50	52.6	105	24-160	
4-Chlorophenylphenyl ether	ug/L	50	44.3	89	53-120	
4-Nitroaniline	ug/L	50	49.9J	100	50-120	
4-Nitrophenol	ug/L	50	20.5J	41	10-120	
Acenaphthene	ug/L	50	45.0	90	50-120	
Acenaphthylene	ug/L	50	45.1	90	49-120	
Anthracene	ug/L	50	48.9	98	52-120	
Benzo(a)anthracene	ug/L	50	49.2	98	53-120	
Benzo(a)pyrene	ug/L	50	50.7	101	51-120	
Benzo(b)fluoranthene	ug/L	50	49.0	98	51-120	
Benzo(g,h,i)perylene	ug/L	50	49.9	100	52-120	
Benzo(k)fluoranthene	ug/L	50	51.9	104	51-120	
Benzoic acid	ug/L	50	ND	37	10-120	
Benzyl alcohol	ug/L	50	38.4	77	39-120	
bis(2-Chloroethoxy)methane	ug/L	50	47.0	94	50-120	
bis(2-Chloroethyl) ether	ug/L	50	45.4	91	48-120	
bis(2-Chloroisopropyl) ether	ug/L	50	47.5	95	49-120	
bis(2-Ethylhexyl)phthalate	ug/L	50	52.2	104	52-123	
Butylbenzylphthalate	ug/L	50	52.3	105	52-120	
Carbazole	ug/L	50	50.2	100	55-120	
Chrysene	ug/L	50	49.8	100	53-120	
Di-n-butylphthalate	ug/L	50	51.7	103	49-125	
Di-n-octylphthalate	ug/L	50	53.8	108	51-121	
Dibenz(a,h)anthracene	ug/L	50	50.2	100	51-120	
Dibenzofuran	ug/L	50	45.0	90	51-120	
Diethylphthalate	ug/L	50	47.6	95	53-120	
Dimethylphthalate	ug/L	50	46.9	94	52-120	
Fluoranthene	ug/L	50	49.0	98	53-120	
Fluorene	ug/L	50	45.5	91	52-120	
Hexachloro-1,3-butadiene	ug/L	50	39.1	78	42-120	
Hexachlorobenzene	ug/L	50	45.2	90	52-120	
Hexachlorocyclopentadiene	ug/L	100	58.0	58	26-120	
Hexachloroethane	ug/L	50	40.1	80	43-120	
Indeno(1,2,3-cd)pyrene	ug/L	50	49.4	99	51-120	
Isophorone	ug/L	50	46.9	94	50-120	
N-Nitroso-di-n-propylamine	ug/L	50	46.7	93	50-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: OUTFALL #3
Pace Project No.: 60156471

LABORATORY CONTROL SAMPLE: 1281125

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
N-Nitrosodiphenylamine	ug/L	50	46.2	92	53-120	
Naphthalene	ug/L	50	43.0	86	48-120	
Nitrobenzene	ug/L	50	46.0	92	47-120	
Pentachlorophenol	ug/L	50	49.6J	99	43-120	
Phenanthrene	ug/L	50	48.8	98	53-120	
Phenol	ug/L	50	19.6	39	12-120	
Pyrene	ug/L	50	49.7	99	54-120	
Pyridine	ug/L	50	22.2	44	10-120	
2,4,6-Tribromophenol (S)	%			86	29-121	
2-Fluorobiphenyl (S)	%			87	19-124	
2-Fluorophenol (S)	%			47	13-120	
Nitrobenzene-d5 (S)	%			87	10-135	
Phenol-d6 (S)	%			32	10-120	
Terphenyl-d14 (S)	%			95	24-131	

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QUALIFIERS

Project: OUTFALL #3
Pace Project No.: 60156471

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: OEXT/41247

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

Batch: MSV/57391

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

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

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: OUTFALL #3
Pace Project No.: 60156471

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156471001	**OUTFALL #3**	EPA 3510	OEXT/41247	EPA 8270	MSSV/13101
60156471001	**OUTFALL #3**	EPA 5030B/8260	MSV/57391		

Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60156471

60156471

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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 ☒ ZIPL

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: 10/30

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☐Yes ☒No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☒No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: (VOA) coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☒No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: Only 1 AMBER RECEIVED FOR 8270 ext.

Project Manager Review: _____ Date: 10/30/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

Section A Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	Fax:
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	~~SCOTT FEDAK/FEEZOR~~ DANA BAKER/MARGARET TREANOR-BARR
Purchase Order No:	PO 3727110
Project Name:	~~WEEKLY 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: 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)

60156471

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	~~TCLP~~ VOC EPA 8260	SVOC EPA 8270	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	OUTFALL #3	WT	G	—	—	10/26/13	1820		4	4									✓	✓		AG1U, 3(DG9U) 001
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Julie Crook / Feezor Engin	10/29/13	1400	[illegible]	10/29/13	1400				
				Shudeh McG / PASI	10/30	0215	2.2	Y	Y	~~AG1U~~, 3(DG9U) S 10/30

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brad Vits

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 10/29/13

*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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(913)599-5665

November 07, 2013

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

RE: Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on October 31, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

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

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SAMPLE SUMMARY

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156541001	**316-120**	Water	10/30/13 10:11	10/31/13 01:30
60156541002	**TRIP BLANK**	Water	10/30/13 10:11	10/31/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156541001	**316-120**	EPA 200.7	TJT	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	DJR	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60156541002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Sample: 316-120 **Lab ID: 60156541001** Collected: 10/30/13 10:11 Received: 10/31/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7540**	ug/L	375	5	11/01/13 16:00	11/04/13 16:43	7429-90-5	
Antimony	**67.0**	ug/L	50.0	5	11/01/13 16:00	11/04/13 16:43	7440-36-0	
Arsenic	**933**	ug/L	50.0	5	11/01/13 16:00	11/04/13 16:43	7440-38-2	
Beryllium	ND	ug/L	5.0	5	11/01/13 16:00	11/04/13 16:43	7440-41-7	
Cadmium	ND	ug/L	25.0	5	11/01/13 16:00	11/04/13 16:43	7440-43-9	
Chromium	**320**	ug/L	25.0	5	11/01/13 16:00	11/04/13 16:43	7440-47-3	
Cobalt	**39.6**	ug/L	25.0	5	11/01/13 16:00	11/04/13 16:43	7440-48-4	
Copper	ND	ug/L	50.0	5	11/01/13 16:00	11/04/13 16:43	7440-50-8	
Iron	**1010000**	ug/L	250	5	11/01/13 16:00	11/04/13 16:43	7439-89-6	
Lead	**166**	ug/L	25.0	5	11/01/13 16:00	11/04/13 16:43	7439-92-1	
Nickel	**127**	ug/L	25.0	5	11/01/13 16:00	11/04/13 16:43	7440-02-0	
Selenium	ND	ug/L	75.0	5	11/01/13 16:00	11/04/13 16:43	7782-49-2	
Silver	ND	ug/L	35.0	5	11/01/13 16:00	11/04/13 16:43	7440-22-4	
Thallium	ND	ug/L	100	5	11/01/13 16:00	11/04/13 16:43	7440-28-0	
Zinc	**15600**	ug/L	1000	20	11/01/13 16:00	11/04/13 16:46	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4090**	ug/L	150	2	10/31/13 18:35	11/01/13 12:28	7429-90-5	
Antimony, Dissolved	ND	ug/L	200	20	10/31/13 18:35	11/01/13 12:35	7440-36-0	D3
Arsenic, Dissolved	**814**	ug/L	20.0	2	10/31/13 18:35	11/01/13 12:28	7440-38-2	
Beryllium, Dissolved	ND	ug/L	2.0	2	10/31/13 18:35	11/01/13 12:28	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:28	7440-43-9	
Chromium, Dissolved	**265**	ug/L	25.0	5	10/31/13 18:35	11/01/13 12:31	7440-47-3	
Cobalt, Dissolved	**33.8**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:28	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	10/31/13 18:35	11/01/13 12:28	7440-50-8	
Iron, Dissolved	**805000**	ug/L	1000	20	10/31/13 18:35	11/01/13 12:35	7439-89-6	
Lead, Dissolved	**89.8**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:28	7439-92-1	
Nickel, Dissolved	**90.8**	ug/L	10.0	2	10/31/13 18:35	11/01/13 12:28	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	10/31/13 18:35	11/01/13 12:31	7782-49-2	
Silver, Dissolved	**14.2**	ug/L	14.0	2	10/31/13 18:35	11/01/13 12:28	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	5	10/31/13 18:35	11/01/13 12:31	7440-28-0	D3
Zinc, Dissolved	**14200**	ug/L	1000	20	10/31/13 18:35	11/01/13 12:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**10**	ug/L	0.20	1	10/31/13 11:00	11/01/13 12:14	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	11/01/13 09:00	11/01/13 12:50	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	11/02/13 00:00	11/04/13 17:10	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	67-72-1	
Naphthalene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	98-95-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Sample: 316-120 **Lab ID: 60156541001** Collected: 10/30/13 10:11 Received: 10/31/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	87-86-5	
Phenol	**8460**	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:10	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	97	%	33-120	2	11/02/13 00:00	11/04/13 17:10	4165-60-0	
2-Fluorobiphenyl (S)	75	%	39-120	2	11/02/13 00:00	11/04/13 17:10	321-60-8	
Terphenyl-d14 (S)	82	%	45-120	2	11/02/13 00:00	11/04/13 17:10	1718-51-0	
Phenol-d6 (S)	34	%	11-120	2	11/02/13 00:00	11/04/13 17:10	13127-88-3	
2-Fluorophenol (S)	36	%	17-120	2	11/02/13 00:00	11/04/13 17:10	367-12-4	
2,4,6-Tribromophenol (S)	88	%	39-120	2	11/02/13 00:00	11/04/13 17:10	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		11/05/13 11:44	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		11/05/13 11:44	75-27-4	
Bromoform	ND	ug/L	200	200		11/05/13 11:44	75-25-2	
Bromomethane	ND	ug/L	1000	200		11/05/13 11:44	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		11/05/13 11:44	56-23-5	
Chloroethane	ND	ug/L	200	200		11/05/13 11:44	75-00-3	
Chloroform	ND	ug/L	200	200		11/05/13 11:44	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		11/05/13 11:44	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		11/05/13 11:44	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		11/05/13 11:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		11/05/13 11:44	156-60-5	
Ethylbenzene	ND	ug/L	200	200		11/05/13 11:44	100-41-4	
Methylene chloride	ND	ug/L	200	200		11/05/13 11:44	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		11/05/13 11:44	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		11/05/13 11:44	127-18-4	
Toluene	ND	ug/L	200	200		11/05/13 11:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		11/05/13 11:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		11/05/13 11:44	79-00-5	
Trichloroethene	ND	ug/L	200	200		11/05/13 11:44	79-01-6	
Vinyl chloride	ND	ug/L	200	200		11/05/13 11:44	75-01-4	
Xylene (Total)	ND	ug/L	600	200		11/05/13 11:44	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	94	%	80-120	200		11/05/13 11:44	460-00-4	D3
Toluene-d8 (S)	95	%	80-120	200		11/05/13 11:44	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	200		11/05/13 11:44	17060-07-0	
Preservation pH	**6.0**		1.0	200		11/05/13 11:44		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**997**	mg/L	5.0	1		10/31/13 15:28		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		11/05/13 11:29		

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Sample: 316-120 **Lab ID: 60156541001** Collected: 10/30/13 10:11 Received: 10/31/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2660**	mg/L	5.0	1		10/31/13 10:21		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		10/31/13 13:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**37300**	mg/L	2.0	1	11/01/13 09:11	11/06/13 09:57		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**788**	mg/L	20.0	200		10/31/13 16:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**43100**	mg/L	10000	1000		11/05/13 09:19		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Sample: TRIP BLANK **Lab ID: 60156541002** Collected: 10/30/13 10:11 Received: 10/31/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		11/05/13 11:29	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/05/13 11:29	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/05/13 11:29	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/05/13 11:29	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		11/05/13 11:29	56-23-5	
Chloroethane	ND	ug/L	1.0	1		11/05/13 11:29	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/05/13 11:29	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/05/13 11:29	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/05/13 11:29	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/05/13 11:29	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/05/13 11:29	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		11/05/13 11:29	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		11/05/13 11:29	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/05/13 11:29	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/05/13 11:29	127-18-4	
Toluene	ND	ug/L	1.0	1		11/05/13 11:29	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/05/13 11:29	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/05/13 11:29	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/05/13 11:29	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		11/05/13 11:29	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/05/13 11:29	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	1		11/05/13 11:29	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		11/05/13 11:29	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		11/05/13 11:29	17060-07-0	
Preservation pH	**6.0**		1.0	1		11/05/13 11:29		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MERP/7875
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156541001

METHOD BLANK: 1281352 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	11/01/13 11:30	

LABORATORY CONTROL SAMPLE: 1281353

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: 1281354 1281355

Parameter	Units	60156511021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	1.0	5	5	6.2	6.2	102	102	70-130	0	20	

MATRIX SPIKE SAMPLE: 1281356

Parameter	Units	60156511022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	5.1	101	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MERP/7876
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156541001

METHOD BLANK: 1282003 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/01/13 12:16	

LABORATORY CONTROL SAMPLE: 1282004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1282005

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	ND	150	114	76	70-130	

SAMPLE DUPLICATE: 1282006

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury, Dissolved	ug/L	ND	ND		20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MPRP/24954
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156541001

METHOD BLANK: 1282227 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	11/04/13 16:41	
Antimony	ug/L	ND	10.0	11/04/13 16:41	
Arsenic	ug/L	ND	10.0	11/04/13 16:41	
Beryllium	ug/L	ND	1.0	11/04/13 16:41	
Cadmium	ug/L	ND	5.0	11/04/13 16:41	
Chromium	ug/L	ND	5.0	11/04/13 16:41	
Cobalt	ug/L	ND	5.0	11/04/13 16:41	
Copper	ug/L	ND	10.0	11/04/13 16:41	
Iron	ug/L	ND	50.0	11/04/13 16:41	
Lead	ug/L	ND	5.0	11/04/13 16:41	
Nickel	ug/L	ND	5.0	11/04/13 16:41	
Selenium	ug/L	ND	15.0	11/04/13 16:41	
Silver	ug/L	ND	7.0	11/04/13 16:41	
Thallium	ug/L	ND	20.0	11/04/13 16:41	
Zinc	ug/L	ND	50.0	11/04/13 16:41	

LABORATORY CONTROL SAMPLE: 1282228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9460	95	85-115	
Antimony	ug/L	1000	1020	102	85-115	
Arsenic	ug/L	1000	998	100	85-115	
Beryllium	ug/L	1000	961	96	85-115	
Cadmium	ug/L	1000	1020	102	85-115	
Chromium	ug/L	1000	1010	101	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	981	98	85-115	
Iron	ug/L	10000	9630	96	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1050	105	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	490	98	85-115	
Thallium	ug/L	1000	1060	106	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1282229 1282230

Parameter	Units	60156566001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	5540	10000	10000	21500	21500	159	160	70-130	0	8	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1282229 1282230

Parameter	Units	60156566001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	971	971	97	97	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1020	1030	101	102	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	975	968	97	97	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1010	101	101	70-130	0	10	
Chromium	ug/L	10.7	1000	1000	1020	1020	101	101	70-130	0	10	
Cobalt	ug/L	5.9	1000	1000	992	995	99	99	70-130	0	6	
Copper	ug/L	18.5	1000	1000	1010	1000	99	99	70-130	0	11	
Iron	ug/L	11500	10000	10000	21400	21400	99	99	70-130	0	10	
Lead	ug/L	117	1000	1000	1100	1120	99	100	70-130	1	10	
Nickel	ug/L	16.9	1000	1000	1020	1020	100	101	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1000	1000	100	100	70-130	0	10	
Silver	ug/L	ND	500	500	495	495	99	99	70-130	0	10	
Thallium	ug/L	ND	1000	1000	973	976	97	97	70-130	0	6	
Zinc	ug/L	132	1000	1000	1130	1140	99	100	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MPRP/24944
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156541001

METHOD BLANK: 1281760 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/01/13 11:05	
Antimony, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Arsenic, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Beryllium, Dissolved	ug/L	ND	1.0	11/01/13 11:05	
Cadmium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Chromium, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Cobalt, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Copper, Dissolved	ug/L	ND	10.0	11/01/13 11:05	
Iron, Dissolved	ug/L	ND	50.0	11/01/13 11:05	
Lead, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Nickel, Dissolved	ug/L	ND	5.0	11/01/13 11:05	
Selenium, Dissolved	ug/L	ND	15.0	11/01/13 11:05	
Silver, Dissolved	ug/L	ND	7.0	11/01/13 11:05	
Thallium, Dissolved	ug/L	ND	20.0	11/01/13 11:05	
Zinc, Dissolved	ug/L	ND	50.0	11/01/13 11:05	

LABORATORY CONTROL SAMPLE: 1281761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10300	103	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	972	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1030	103	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	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	1040	104	85-115	
Selenium, Dissolved	ug/L	1000	998	100	85-115	
Silver, Dissolved	ug/L	500	496	99	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3780	10000	13500	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1090	107	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

MATRIX SPIKE SAMPLE: 1281762

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic, Dissolved	ug/L	677	1000	1770	109	70-130	
Beryllium, Dissolved	ug/L	ND	1000	887	89	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1050	105	70-130	
Chromium, Dissolved	ug/L	263	1000	1210	95	70-130	
Cobalt, Dissolved	ug/L	35.1	1000	928	89	70-130	
Copper, Dissolved	ug/L	ND	1000	1010	101	70-130	
Iron, Dissolved	ug/L	851000	10000	819000	-322	70-130	M1
Lead, Dissolved	ug/L	79.3	1000	906	83	70-130	
Nickel, Dissolved	ug/L	88.6	1000	976	89	70-130	
Selenium, Dissolved	ug/L	ND	1000	1110	111	70-130	
Silver, Dissolved	ug/L	ND	500	537	105	70-130	
Thallium, Dissolved	ug/L	ND	1000	774	77	70-130	
Zinc, Dissolved	ug/L	11600	1000	12400	84	70-130	

SAMPLE DUPLICATE: 1281763

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Aluminum, Dissolved	ug/L	3830	3960	3	20	
Antimony, Dissolved	ug/L	ND	ND		20	D3
Arsenic, Dissolved	ug/L	729	730	0	20	
Beryllium, Dissolved	ug/L	ND	ND		20	D3
Cadmium, Dissolved	ug/L	ND	ND		20	
Chromium, Dissolved	ug/L	253	265	5	20	
Cobalt, Dissolved	ug/L	34.3	35.7	4	20	
Copper, Dissolved	ug/L	ND	ND		20	
Iron, Dissolved	ug/L	885000	848000	4	20	
Lead, Dissolved	ug/L	84.8	90.9	7	20	
Nickel, Dissolved	ug/L	91.2	95.4	4	20	
Selenium, Dissolved	ug/L	ND	ND		20	
Silver, Dissolved	ug/L	ND	13.9J		20	
Thallium, Dissolved	ug/L	ND	ND		20	D3
Zinc, Dissolved	ug/L	16000	14900	7	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MSV/57466 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156541001, 60156541002

METHOD BLANK: 1283417 Matrix: Water
Associated Lab Samples: 60156541001, 60156541002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,2-Dichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/05/13 11:14	
Benzene	ug/L	ND	1.0	11/05/13 11:14	
Bromodichloromethane	ug/L	ND	1.0	11/05/13 11:14	
Bromoform	ug/L	ND	1.0	11/05/13 11:14	
Bromomethane	ug/L	ND	5.0	11/05/13 11:14	
Carbon tetrachloride	ug/L	ND	1.0	11/05/13 11:14	
Chloroethane	ug/L	ND	1.0	11/05/13 11:14	
Chloroform	ug/L	ND	1.0	11/05/13 11:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Ethylbenzene	ug/L	ND	1.0	11/05/13 11:14	
Methylene chloride	ug/L	ND	1.0	11/05/13 11:14	
Tetrachloroethene	ug/L	ND	1.0	11/05/13 11:14	
Toluene	ug/L	ND	1.0	11/05/13 11:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Trichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Vinyl chloride	ug/L	ND	1.0	11/05/13 11:14	
Xylene (Total)	ug/L	ND	3.0	11/05/13 11:14	
1,2-Dichloroethane-d4 (S)	%	105	80-120	11/05/13 11:14	
4-Bromofluorobenzene (S)	%	98	80-120	11/05/13 11:14	
Toluene-d8 (S)	%	96	80-120	11/05/13 11:14	

LABORATORY CONTROL SAMPLE: 1283418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.5	88	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	14.5	73	59-138	
1,1,2-Trichloroethane	ug/L	20	15.5	77	69-127	
1,2-Dichloroethane	ug/L	20	18.9	94	71-129	
1,4-Dichlorobenzene	ug/L	20	15.3	76	68-124	
Benzene	ug/L	20	16.4	82	73-129	
Bromodichloromethane	ug/L	20	16.0	80	63-129	
Bromoform	ug/L	20	16.1	81	52-123	
Bromomethane	ug/L	20	6.2	31	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	12.2	61	42-160	
Chloroform	ug/L	20	17.3	87	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.8	79	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

LABORATORY CONTROL SAMPLE: 1283418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	15.3	77	66-133	
Methylene chloride	ug/L	20	16.0	80	56-135	
Tetrachloroethene	ug/L	20	16.2	81	64-143	
Toluene	ug/L	20	16.1	80	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	11.2	56	41-160	
Xylene (Total)	ug/L	60	46.0	77	67-130	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1283537

Parameter	Units	60156796001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3410	85	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2260	57	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2860	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3420	86	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	2740	64	18-147	
Benzene	ug/L	ND	4000	3140	79	37-151	
Bromodichloromethane	ug/L	ND	4000	2910	73	35-155	
Bromoform	ug/L	ND	4000	2870	72	45-133	
Bromomethane	ug/L	ND	4000	1080	27	10-160	
Carbon tetrachloride	ug/L	ND	4000	3640	91	70-140	
Chloroethane	ug/L	ND	4000	2290	57	14-160	
Chloroform	ug/L	ND	4000	3260	82	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3050	76	19-160	
Ethylbenzene	ug/L	ND	4000	3190	80	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3040	76	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3230	81	54-156	
Trichloroethene	ug/L	ND	4000	3160	79	71-157	
Vinyl chloride	ug/L	ND	4000	2180	54	10-160	
Xylene (Total)	ug/L	ND	12000	8980	75	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				93	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: OEXT/41282
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156541001

METHOD BLANK: 1282498 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/04/13 16:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	11/04/13 16:28	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	11/04/13 16:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	11/04/13 16:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	11/04/13 16:28	
Hexachloroethane	ug/L	ND	5.0	11/04/13 16:28	
Naphthalene	ug/L	ND	5.0	11/04/13 16:28	
Nitrobenzene	ug/L	ND	5.0	11/04/13 16:28	
Pentachlorophenol	ug/L	ND	5.0	11/04/13 16:28	
Phenol	ug/L	ND	5.0	11/04/13 16:28	
2,4,6-Tribromophenol (S)	%	78	39-120	11/04/13 16:28	
2-Fluorobiphenyl (S)	%	74	39-120	11/04/13 16:28	
2-Fluorophenol (S)	%	35	17-120	11/04/13 16:28	
Nitrobenzene-d5 (S)	%	68	33-120	11/04/13 16:28	
Phenol-d6 (S)	%	23	11-120	11/04/13 16:28	
Terphenyl-d14 (S)	%	85	45-120	11/04/13 16:28	

LABORATORY CONTROL SAMPLE: 1282499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.5	77	46-120	
2,4,6-Trichlorophenol	ug/L	50	40.3	81	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	46.7	93	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.4	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.7	70	24-120	
Hexachloroethane	ug/L	50	37.9	76	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	39.3	79	47-120	
Phenol	ug/L	50	11.7	23	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

MATRIX SPIKE SAMPLE: 1282500

Parameter	Units	60156441001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.0	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.4	81	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	45.5	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	37.4	75	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	71.1	71	11-120	
Hexachloroethane	ug/L	ND	50	36.8	74	40-113	
Naphthalene	ug/L	ND	50	37.8	76	45-120	
Nitrobenzene	ug/L	ND	50	37.9	76	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	ND	50	12.9	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				73	33-120	
Phenol-d6 (S)	%				25	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WET/44347
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156541001

METHOD BLANK: 1281590 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	10/31/13 15:27	

LABORATORY CONTROL SAMPLE: 1281591

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	38.3	96	78-114	

MATRIX SPIKE SAMPLE: 1281592

Parameter	Units	60156533002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	41.2	40.9	98	78-114	

SAMPLE DUPLICATE: 1281594

Parameter	Units	60156460001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WET/44396 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156541001

METHOD BLANK: 1283348 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	11/05/13 11:27	

LABORATORY CONTROL SAMPLE: 1283349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.9	94	64-132	

MATRIX SPIKE SAMPLE: 1283354

Parameter	Units	60156524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.4	18.1	84	64-132	

SAMPLE DUPLICATE: 1283353

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.8	5.2	27	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WET/44339 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156541001

METHOD BLANK: 1281323 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	10/31/13 10:20	

SAMPLE DUPLICATE: 1281324

Parameter	Units	60156528001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WET/44343
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156541001

SAMPLE DUPLICATE: 1281479

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.5	5.5	0	5	H6

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WET/44352 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156541001

METHOD BLANK: 1281838 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/06/13 09:25	

LABORATORY CONTROL SAMPLE: 1281839

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

SAMPLE DUPLICATE: 1281840

Parameter	Units	60156562001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	194	187	4	17	B1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WETA/26914
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156541001

METHOD BLANK: 1281480 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	10/31/13 15:50	

LABORATORY CONTROL SAMPLE: 1281481

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

MATRIX SPIKE SAMPLE: 1281482

Parameter	Units	60156334001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	805	400	1160	88	90-110	M1

MATRIX SPIKE SAMPLE: 1281483

Parameter	Units	60156430001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	804	400	1110	75	90-110	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: WETA/26967
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60156541001

METHOD BLANK: 1283043 Matrix: Water
Associated Lab Samples: 60156541001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	11/05/13 09:18	

LABORATORY CONTROL SAMPLE: 1283044

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: 1283045

Parameter	Units	60156541001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	43100	50000	95600	105	90-110	

MATRIX SPIKE SAMPLE: 1283046

Parameter	Units	60156648001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	57200	50000	110000	106	90-110	

MATRIX SPIKE SAMPLE: 1283047

Parameter	Units	60156747001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	45900	50000	96300	101	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

B1	Less than 1.0 mg/L DO remained for all dilutions set. The reported value is an estimated greater than value and is calculated for the dilution using the least amount of sample.
D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156541001	**316-120**	EPA 200.7	MPRP/24954	EPA 200.7	ICP/19335
60156541001	**316-120**	EPA 200.7	MPRP/24944	EPA 200.7	ICP/19329
60156541001	**316-120**	EPA 245.1	MERP/7875	EPA 245.1	MERC/7832
60156541001	**316-120**	EPA 245.1	MERP/7876	EPA 245.1	MERC/7833
60156541001	**316-120**	EPA 625	OEXT/41282	EPA 625	MSSV/13109
60156541001	**316-120**	EPA 624 Low	MSV/57466		
60156541002	**TRIP BLANK**	EPA 624 Low	MSV/57466		
60156541001	**316-120**	EPA 1664A	WET/44347		
60156541001	**316-120**	EPA 1664A	WET/44396		
60156541001	**316-120**	SM 2540D	WET/44339		
60156541001	**316-120**	SM 4500-H+B	WET/44343		
60156541001	**316-120**	SM 5210B	WET/44352	SM 5210B	WET/44452
60156541001	**316-120**	EPA 350.1	WETA/26914		
60156541001	**316-120**	EPA 410.4	WETA/26967		

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Sample Condition Upon Receipt

WO#: 60156541

60156541

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ X-R

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: 1.2

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8 10/31

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add HNO3 316-120 BP3N 6.0/3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Add H2SO4 316-120 282 BP3S 6.0/30 6.0/2.0
Exceptions: (VOA), coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed 8 Lot # of added preservative 12513 12520
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 10/31/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	JANET ROLLEN
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 2

Regulatory Agency
State / Location
Missouri

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

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

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
1	316-120 2(BP2U) BP3U, 3(AG3S)	OT	G	10/30/13	1011	—	—		14
2	TRIP BLANK 2(DG9U)TB	—	—	—	—	—	—		2
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									

ITEM#	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N Analyses Test
1	10	4	1	0	2(AG4U)			BP3N	
2	2								

Requested Analysis Filtered (Y/N)

ITEM#	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)	60156541
1	X	X	X	X	X	X	X	X	X	X	X	2(	BP3S,	5(DG9U)
2								X						

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	Don Linsett / FEI	10-30-13	1:50pm	Henryetta Martin	10-30-13	1:50pm				
SITE ADDRESS: BRIDGETON LF				Shondelle McKay / PASI	~~10/30~~ 10/31	0130	1.2	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/30/13

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

November 08, 2013

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

RE: Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on November 01, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

Pace Analytical Services, Inc.
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CERTIFICATIONS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

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

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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SAMPLE SUMMARY

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60156648001	**316-121**	Water	10/31/13 09:46	11/01/13 00:40
60156648002	**TRIP BLANK**	Water	10/31/13 09:46	11/01/13 00:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60156648001	**316-121**	EPA 200.7	TJT	15
		EPA 200.7	SMW	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	RAH	1
		SM 4500-H+B	AJM	1
		SM 5210B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60156648002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Sample: 316-121 **Lab ID: 60156648001** Collected: 10/31/13 09:46 Received: 11/01/13 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9280**	ug/L	375	1	11/04/13 14:30	11/05/13 15:05	7429-90-5	
Antimony	**77.4**	ug/L	50.0	1	11/04/13 14:30	11/05/13 15:05	7440-36-0	
Arsenic	**1040**	ug/L	50.0	1	11/04/13 14:30	11/05/13 15:05	7440-38-2	
Beryllium	ND	ug/L	5.0	1	11/04/13 14:30	11/05/13 15:05	7440-41-7	D3
Cadmium	ND	ug/L	25.0	1	11/04/13 14:30	11/05/13 15:05	7440-43-9	
Chromium	**332**	ug/L	25.0	1	11/04/13 14:30	11/05/13 15:05	7440-47-3	
Cobalt	**38.9**	ug/L	25.0	1	11/04/13 14:30	11/05/13 15:05	7440-48-4	
Copper	ND	ug/L	50.0	1	11/04/13 14:30	11/05/13 15:05	7440-50-8	
Iron	**1090000**	ug/L	250	1	11/04/13 14:30	11/05/13 15:05	7439-89-6	
Lead	**190**	ug/L	25.0	1	11/04/13 14:30	11/05/13 15:05	7439-92-1	
Nickel	**134**	ug/L	25.0	1	11/04/13 14:30	11/05/13 15:05	7440-02-0	
Selenium	ND	ug/L	75.0	1	11/04/13 14:30	11/05/13 15:05	7782-49-2	
Silver	ND	ug/L	35.0	1	11/04/13 14:30	11/05/13 15:05	7440-22-4	
Thallium	ND	ug/L	100	1	11/04/13 14:30	11/05/13 15:05	7440-28-0	
Zinc	**15500**	ug/L	500	2	11/04/13 14:30	11/05/13 15:07	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**4660**	ug/L	375	1	11/04/13 14:30	11/05/13 12:24	7429-90-5	
Antimony, Dissolved	ND	ug/L	250	5	11/04/13 14:30	11/05/13 12:28	7440-36-0	D3
Arsenic, Dissolved	**912**	ug/L	50.0	1	11/04/13 14:30	11/05/13 12:24	7440-38-2	
Beryllium, Dissolved	ND	ug/L	25.0	5	11/04/13 14:30	11/05/13 12:28	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	1	11/04/13 14:30	11/05/13 12:24	7440-43-9	D3
Chromium, Dissolved	**295**	ug/L	25.0	1	11/04/13 14:30	11/05/13 12:24	7440-47-3	
Cobalt, Dissolved	**36.6**	ug/L	25.0	1	11/04/13 14:30	11/05/13 12:24	7440-48-4	
Copper, Dissolved	ND	ug/L	50.0	1	11/04/13 14:30	11/05/13 12:24	7440-50-8	
Iron, Dissolved	**875000**	ug/L	1250	5	11/04/13 14:30	11/05/13 12:28	7439-89-6	M1
Lead, Dissolved	**102**	ug/L	25.0	1	11/04/13 14:30	11/05/13 12:24	7439-92-1	
Nickel, Dissolved	**109**	ug/L	25.0	1	11/04/13 14:30	11/05/13 12:24	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	1	11/04/13 14:30	11/05/13 12:24	7782-49-2	
Silver, Dissolved	ND	ug/L	35.0	1	11/04/13 14:30	11/05/13 12:24	7440-22-4	
Thallium, Dissolved	ND	ug/L	100	1	11/04/13 14:30	11/05/13 12:24	7440-28-0	
Zinc, Dissolved	**15400**	ug/L	1250	5	11/04/13 14:30	11/05/13 12:28	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**19.8**	ug/L	6.0	1	11/05/13 09:30	11/05/13 12:08	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	6.0	1	11/05/13 09:30	11/05/13 13:00	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	2	11/02/13 00:00	11/04/13 17:31	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	77-47-4	
Hexachloroethane	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	67-72-1	
Naphthalene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	91-20-3	
Nitrobenzene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	98-95-3	

REPORT OF LABORATORY ANALYSIS

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

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Sample: 316-121 **Lab ID: 60156648001** Collected: 10/31/13 09:46 Received: 11/01/13 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	87-86-5	
Phenol	**9610**	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	2	11/02/13 00:00	11/04/13 17:31	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	110	%	33-120	2	11/02/13 00:00	11/04/13 17:31	4165-60-0	
2-Fluorobiphenyl (S)	83	%	39-120	2	11/02/13 00:00	11/04/13 17:31	321-60-8	
Terphenyl-d14 (S)	86	%	45-120	2	11/02/13 00:00	11/04/13 17:31	1718-51-0	
Phenol-d6 (S)	37	%	11-120	2	11/02/13 00:00	11/04/13 17:31	13127-88-3	
2-Fluorophenol (S)	40	%	17-120	2	11/02/13 00:00	11/04/13 17:31	367-12-4	
2,4,6-Tribromophenol (S)	97	%	39-120	2	11/02/13 00:00	11/04/13 17:31	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		11/05/13 12:14	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		11/05/13 12:14	75-27-4	
Bromoform	ND	ug/L	200	200		11/05/13 12:14	75-25-2	
Bromomethane	ND	ug/L	1000	200		11/05/13 12:14	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		11/05/13 12:14	56-23-5	
Chloroethane	ND	ug/L	200	200		11/05/13 12:14	75-00-3	
Chloroform	ND	ug/L	200	200		11/05/13 12:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		11/05/13 12:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		11/05/13 12:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		11/05/13 12:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		11/05/13 12:14	156-60-5	
Ethylbenzene	ND	ug/L	200	200		11/05/13 12:14	100-41-4	
Methylene chloride	ND	ug/L	200	200		11/05/13 12:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		11/05/13 12:14	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		11/05/13 12:14	127-18-4	
Toluene	ND	ug/L	200	200		11/05/13 12:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		11/05/13 12:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		11/05/13 12:14	79-00-5	
Trichloroethene	ND	ug/L	200	200		11/05/13 12:14	79-01-6	
Vinyl chloride	ND	ug/L	200	200		11/05/13 12:14	75-01-4	
Xylene (Total)	ND	ug/L	600	200		11/05/13 12:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	93	%	80-120	200		11/05/13 12:14	460-00-4	D3
Toluene-d8 (S)	95	%	80-120	200		11/05/13 12:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		11/05/13 12:14	17060-07-0	
Preservation pH	**6.0**		1.0	200		11/05/13 12:14		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**677**	mg/L	5.0	1		11/01/13 13:46		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.9**	mg/L	5.0	1		11/05/13 11:30		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Sample: 316-121 **Lab ID: 60156648001** Collected: 10/31/13 09:46 Received: 11/01/13 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4800**	mg/L	5.0	1		11/04/13 13:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		11/02/13 11:00		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**30800**	mg/L	2.0	1	11/01/13 12:54	11/06/13 12:34		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**778**	mg/L	50.0	500		11/05/13 09:16	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57200**	mg/L	10000	1000		11/05/13 09:20		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Sample: TRIP BLANK **Lab ID: 60156648002** Collected: 10/31/13 09:46 Received: 11/01/13 00:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	1.0	1		11/05/13 12:28	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		11/05/13 12:28	75-27-4	
Bromoform	ND	ug/L	1.0	1		11/05/13 12:28	75-25-2	
Bromomethane	ND	ug/L	5.0	1		11/05/13 12:28	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		11/05/13 12:28	56-23-5	
Chloroethane	ND	ug/L	1.0	1		11/05/13 12:28	75-00-3	
Chloroform	ND	ug/L	1.0	1		11/05/13 12:28	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		11/05/13 12:28	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		11/05/13 12:28	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		11/05/13 12:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		11/05/13 12:28	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		11/05/13 12:28	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		11/05/13 12:28	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		11/05/13 12:28	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		11/05/13 12:28	127-18-4	
Toluene	ND	ug/L	1.0	1		11/05/13 12:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		11/05/13 12:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		11/05/13 12:28	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		11/05/13 12:28	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		11/05/13 12:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		11/05/13 12:28	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	95	%	80-120	1		11/05/13 12:28	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		11/05/13 12:28	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		11/05/13 12:28	17060-07-0	
Preservation pH	**6.0**		1.0	1		11/05/13 12:28		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MERP/7882
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60156648001

METHOD BLANK: 1283399 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	11/05/13 12:00	

LABORATORY CONTROL SAMPLE: 1283400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.1	102	85-115	

MATRIX SPIKE SAMPLE: 1283402

Parameter	Units	60156796001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	13.5	150	161	99	70-130	

SAMPLE DUPLICATE: 1283401

Parameter	Units	60155433003 Result	Dup Result	RPD	Max RPD	Qualifiers
Mercury	ug/L	3.6	3.5	2	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MERP/7881
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60156648001

METHOD BLANK: 1283395 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	11/05/13 12:56	

LABORATORY CONTROL SAMPLE: 1283396

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: 1283397 1283398

Parameter	Units	60156648001 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	146	152	98	102	70-130	4	20	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MPRP/24969
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60156648001

METHOD BLANK: 1283130 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	11/05/13 14:56	
Antimony	ug/L	ND	10.0	11/05/13 14:56	
Arsenic	ug/L	ND	10.0	11/05/13 14:56	
Beryllium	ug/L	ND	1.0	11/05/13 14:56	
Cadmium	ug/L	ND	5.0	11/05/13 14:56	
Chromium	ug/L	ND	5.0	11/05/13 14:56	
Cobalt	ug/L	ND	5.0	11/05/13 14:56	
Copper	ug/L	ND	10.0	11/05/13 14:56	
Iron	ug/L	124	50.0	11/05/13 14:56	
Lead	ug/L	ND	5.0	11/05/13 14:56	
Nickel	ug/L	ND	5.0	11/05/13 14:56	
Selenium	ug/L	ND	15.0	11/05/13 14:56	
Silver	ug/L	ND	7.0	11/05/13 14:56	
Thallium	ug/L	ND	20.0	11/05/13 14:56	
Zinc	ug/L	ND	50.0	11/05/13 14:56	

LABORATORY CONTROL SAMPLE: 1283131

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10000	100	85-115	
Antimony	ug/L	1000	991	99	85-115	
Arsenic	ug/L	1000	961	96	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	979	98	85-115	
Chromium	ug/L	1000	991	99	85-115	
Cobalt	ug/L	1000	1030	103	85-115	
Copper	ug/L	1000	975	97	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1030	103	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	487	97	85-115	
Thallium	ug/L	1000	998	100	85-115	
Zinc	ug/L	1000	988	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1283132 1283133

Parameter	Units	60156649001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	103	10000	10000	10100	10400	100	103	70-130	3	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1283132 1283133

Parameter	Units	60156649001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1000	1040	100	104	70-130	4	7	
Arsenic	ug/L	ND	1000	1000	977	1010	98	101	70-130	3	10	
Beryllium	ug/L	ND	1000	1000	1010	1040	101	104	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	996	1030	100	103	70-130	3	10	
Chromium	ug/L	ND	1000	1000	999	1020	100	102	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	6	
Copper	ug/L	ND	1000	1000	998	1020	99	102	70-130	2	11	
Lead	ug/L	ND	1000	1000	1030	1060	103	106	70-130	3	10	
Nickel	ug/L	ND	1000	1000	1050	1080	105	108	70-130	3	10	
Selenium	ug/L	ND	1000	1000	1000	1030	100	103	70-130	3	10	
Silver	ug/L	ND	500	500	492	506	98	101	70-130	3	10	
Thallium	ug/L	ND	1000	1000	1020	1040	102	104	70-130	3	6	
Zinc	ug/L	157	1000	1000	1150	1190	100	103	70-130	3	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MPRP/24968
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60156648001

METHOD BLANK: 1283126 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	11/05/13 11:59	
Antimony, Dissolved	ug/L	ND	10.0	11/05/13 11:59	
Arsenic, Dissolved	ug/L	ND	10.0	11/05/13 11:59	
Beryllium, Dissolved	ug/L	ND	1.0	11/05/13 11:59	
Cadmium, Dissolved	ug/L	ND	5.0	11/05/13 11:59	
Chromium, Dissolved	ug/L	ND	5.0	11/05/13 11:59	
Cobalt, Dissolved	ug/L	ND	5.0	11/05/13 11:59	
Copper, Dissolved	ug/L	ND	10.0	11/05/13 11:59	
Iron, Dissolved	ug/L	214	50.0	11/05/13 11:59	
Lead, Dissolved	ug/L	ND	5.0	11/05/13 11:59	
Nickel, Dissolved	ug/L	ND	5.0	11/05/13 11:59	
Selenium, Dissolved	ug/L	ND	15.0	11/05/13 11:59	
Silver, Dissolved	ug/L	ND	7.0	11/05/13 11:59	
Thallium, Dissolved	ug/L	ND	20.0	11/05/13 11:59	
Zinc, Dissolved	ug/L	ND	50.0	11/05/13 11:59	

LABORATORY CONTROL SAMPLE: 1283127

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10200	102	85-115	
Antimony, Dissolved	ug/L	1000	1010	101	85-115	
Arsenic, Dissolved	ug/L	1000	967	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	997	100	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	1010	101	85-115	
Iron, Dissolved	ug/L	10000	10500	105	85-115	
Lead, Dissolved	ug/L	1000	1030	103	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	1000	100	85-115	
Silver, Dissolved	ug/L	500	499	100	85-115	
Thallium, Dissolved	ug/L	1000	1050	105	85-115	
Zinc, Dissolved	ug/L	1000	983	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1283128 1283129

Parameter	Units	60156648001 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	4660	50000	50000	54200	53200	99	97	70-130	2	8	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1283128 1283129

Parameter	Units	60156648001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	5000	5000	5070	5020	100	99	70-130	1	7	
Arsenic, Dissolved	ug/L	912	5000	5000	6340	6350	109	109	70-130	0	10	
Beryllium, Dissolved	ug/L	ND	5000	5000	4790	4730	96	95	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	5000	5000	5200	5170	104	103	70-130	1	10	
Chromium, Dissolved	ug/L	295	5000	5000	5040	5020	95	95	70-130	0	10	
Cobalt, Dissolved	ug/L	36.6	5000	5000	4760	4700	94	93	70-130	1	6	
Copper, Dissolved	ug/L	ND	5000	5000	5160	5100	103	102	70-130	1	11	
Iron, Dissolved	ug/L	875000	50000	50000	860000	892000	-29	34	70-130	4	10	M1
Lead, Dissolved	ug/L	102	5000	5000	4500	4400	88	86	70-130	2	10	
Nickel, Dissolved	ug/L	109	5000	5000	4850	4850	95	95	70-130	0	10	
Selenium, Dissolved	ug/L	ND	5000	5000	6020	6100	120	122	70-130	1	10	
Silver, Dissolved	ug/L	ND	2500	2500	2680	2630	107	105	70-130	2	10	
Thallium, Dissolved	ug/L	ND	5000	5000	4130	4100	83	82	70-130	1	6	
Zinc, Dissolved	ug/L	15400	5000	5000	18800	19400	68	82	70-130	3	11	M1

MATRIX SPIKE SAMPLE: 1283172

Parameter	Units	60156747001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	3400	100000	99600	96	70-130	
Antimony, Dissolved	ug/L	ND	10000	10200	101	70-130	
Arsenic, Dissolved	ug/L	507	10000	10900	104	70-130	
Beryllium, Dissolved	ug/L	ND	10000	9580	96	70-130	
Cadmium, Dissolved	ug/L	ND	10000	10200	102	70-130	
Chromium, Dissolved	ug/L	217	10000	10100	98	70-130	
Cobalt, Dissolved	ug/L	ND	10000	9730	97	70-130	
Copper, Dissolved	ug/L	ND	10000	10100	101	70-130	
Iron, Dissolved	ug/L	652000	100000	752000	100	70-130	
Lead, Dissolved	ug/L	82.9	10000	9390	93	70-130	
Nickel, Dissolved	ug/L	81.8	10000	9920	98	70-130	
Selenium, Dissolved	ug/L	ND	10000	11000	110	70-130	
Silver, Dissolved	ug/L	ND	5000	5120	102	70-130	
Thallium, Dissolved	ug/L	ND	10000	8920	89	70-130	
Zinc, Dissolved	ug/L	11100	10000	21700	106	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MSV/57466 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60156648001, 60156648002

METHOD BLANK: 1283417 Matrix: Water
Associated Lab Samples: 60156648001, 60156648002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,1,2-Trichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,2-Dichloroethane	ug/L	ND	1.0	11/05/13 11:14	
1,4-Dichlorobenzene	ug/L	ND	1.0	11/05/13 11:14	
Benzene	ug/L	ND	1.0	11/05/13 11:14	
Bromodichloromethane	ug/L	ND	1.0	11/05/13 11:14	
Bromoform	ug/L	ND	1.0	11/05/13 11:14	
Bromomethane	ug/L	ND	5.0	11/05/13 11:14	
Carbon tetrachloride	ug/L	ND	1.0	11/05/13 11:14	
Chloroethane	ug/L	ND	1.0	11/05/13 11:14	
Chloroform	ug/L	ND	1.0	11/05/13 11:14	
cis-1,2-Dichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Ethylbenzene	ug/L	ND	1.0	11/05/13 11:14	
Methylene chloride	ug/L	ND	1.0	11/05/13 11:14	
Tetrachloroethene	ug/L	ND	1.0	11/05/13 11:14	
Toluene	ug/L	ND	1.0	11/05/13 11:14	
trans-1,2-Dichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Trichloroethene	ug/L	ND	1.0	11/05/13 11:14	
Vinyl chloride	ug/L	ND	1.0	11/05/13 11:14	
Xylene (Total)	ug/L	ND	3.0	11/05/13 11:14	
1,2-Dichloroethane-d4 (S)	%	105	80-120	11/05/13 11:14	
4-Bromofluorobenzene (S)	%	98	80-120	11/05/13 11:14	
Toluene-d8 (S)	%	96	80-120	11/05/13 11:14	

LABORATORY CONTROL SAMPLE: 1283418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.5	88	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	14.5	73	59-138	
1,1,2-Trichloroethane	ug/L	20	15.5	77	69-127	
1,2-Dichloroethane	ug/L	20	18.9	94	71-129	
1,4-Dichlorobenzene	ug/L	20	15.3	76	68-124	
Benzene	ug/L	20	16.4	82	73-129	
Bromodichloromethane	ug/L	20	16.0	80	63-129	
Bromoform	ug/L	20	16.1	81	52-123	
Bromomethane	ug/L	20	6.2	31	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	12.2	61	42-160	
Chloroform	ug/L	20	17.3	87	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.8	79	70-125	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

LABORATORY CONTROL SAMPLE: 1283418

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	15.3	77	66-133	
Methylene chloride	ug/L	20	16.0	80	56-135	
Tetrachloroethene	ug/L	20	16.2	81	64-143	
Toluene	ug/L	20	16.1	80	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	11.2	56	41-160	
Xylene (Total)	ug/L	60	46.0	77	67-130	
1,2-Dichloroethane-d4 (S)	%			93	80-120	
4-Bromofluorobenzene (S)	%			103	80-120	
Toluene-d8 (S)	%			95	80-120	

MATRIX SPIKE SAMPLE: 1283537

Parameter	Units	60156796001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3410	85	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	2260	57	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2860	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3420	86	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	2740	64	18-147	
Benzene	ug/L	ND	4000	3140	79	37-151	
Bromodichloromethane	ug/L	ND	4000	2910	73	35-155	
Bromoform	ug/L	ND	4000	2870	72	45-133	
Bromomethane	ug/L	ND	4000	1080	27	10-160	
Carbon tetrachloride	ug/L	ND	4000	3640	91	70-140	
Chloroethane	ug/L	ND	4000	2290	57	14-160	
Chloroform	ug/L	ND	4000	3260	82	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3050	76	19-160	
Ethylbenzene	ug/L	ND	4000	3190	80	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3430	86	64-148	
Toluene	ug/L	ND	4000	3040	76	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3230	81	54-156	
Trichloroethene	ug/L	ND	4000	3160	79	71-157	
Vinyl chloride	ug/L	ND	4000	2180	54	10-160	
Xylene (Total)	ug/L	ND	12000	8980	75	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				95	80-120	
Toluene-d8 (S)	%				93	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: OEXT/41282
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60156648001

METHOD BLANK: 1282498 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	11/04/13 16:28	
2,4,6-Trichlorophenol	ug/L	ND	5.0	11/04/13 16:28	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	11/04/13 16:28	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	11/04/13 16:28	
Hexachlorocyclopentadiene	ug/L	ND	5.0	11/04/13 16:28	
Hexachloroethane	ug/L	ND	5.0	11/04/13 16:28	
Naphthalene	ug/L	ND	5.0	11/04/13 16:28	
Nitrobenzene	ug/L	ND	5.0	11/04/13 16:28	
Pentachlorophenol	ug/L	ND	5.0	11/04/13 16:28	
Phenol	ug/L	ND	5.0	11/04/13 16:28	
2,4,6-Tribromophenol (S)	%	78	39-120	11/04/13 16:28	
2-Fluorobiphenyl (S)	%	74	39-120	11/04/13 16:28	
2-Fluorophenol (S)	%	35	17-120	11/04/13 16:28	
Nitrobenzene-d5 (S)	%	68	33-120	11/04/13 16:28	
Phenol-d6 (S)	%	23	11-120	11/04/13 16:28	
Terphenyl-d14 (S)	%	85	45-120	11/04/13 16:28	

LABORATORY CONTROL SAMPLE: 1282499

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.5	77	46-120	
2,4,6-Trichlorophenol	ug/L	50	40.3	81	49-120	
4,6-Dinitro-2-methylphenol	ug/L	50	46.7	93	40-133	
Hexachloro-1,3-butadiene	ug/L	50	38.4	77	44-116	
Hexachlorocyclopentadiene	ug/L	100	69.7	70	24-120	
Hexachloroethane	ug/L	50	37.9	76	43-113	
Naphthalene	ug/L	50	39.4	79	48-120	
Nitrobenzene	ug/L	50	39.9	80	48-120	
Pentachlorophenol	ug/L	50	39.3	79	47-120	
Phenol	ug/L	50	11.7	23	16-112	
2,4,6-Tribromophenol (S)	%			87	39-120	
2-Fluorobiphenyl (S)	%			83	39-120	
2-Fluorophenol (S)	%			37	17-120	
Nitrobenzene-d5 (S)	%			79	33-120	
Phenol-d6 (S)	%			24	11-120	
Terphenyl-d14 (S)	%			88	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

MATRIX SPIKE SAMPLE: 1282500

Parameter	Units	60156441001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.0	74	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	40.4	81	50-120	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	45.5	91	10-160	
Hexachloro-1,3-butadiene	ug/L	ND	50	37.4	75	39-116	
Hexachlorocyclopentadiene	ug/L	ND	100	71.1	71	11-120	
Hexachloroethane	ug/L	ND	50	36.8	74	40-113	
Naphthalene	ug/L	ND	50	37.8	76	45-120	
Nitrobenzene	ug/L	ND	50	37.9	76	38-120	
Pentachlorophenol	ug/L	ND	50	44.8	90	43-135	
Phenol	ug/L	ND	50	12.9	26	13-112	
2,4,6-Tribromophenol (S)	%				88	39-120	
2-Fluorobiphenyl (S)	%				77	39-120	
2-Fluorophenol (S)	%				37	17-120	
Nitrobenzene-d5 (S)	%				73	33-120	
Phenol-d6 (S)	%				25	11-120	
Terphenyl-d14 (S)	%				86	45-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WET/44367
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60156648001

METHOD BLANK: 1282241 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	11/01/13 13:46	

LABORATORY CONTROL SAMPLE: 1282242

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	35.5	89	78-114	

MATRIX SPIKE SAMPLE: 1282246

Parameter	Units	60156575001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	54.1	40.0	71	78-114	M1

SAMPLE DUPLICATE: 1282245

Parameter	Units	60156576001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	ND		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WET/44396 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60156648001

METHOD BLANK: 1283348 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	11/05/13 11:27	

LABORATORY CONTROL SAMPLE: 1283349

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	18.9	94	64-132	

MATRIX SPIKE SAMPLE: 1283354

Parameter	Units	60156524001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.4	18.1	84	64-132	

SAMPLE DUPLICATE: 1283353

Parameter	Units	60156430001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.8	5.2	27	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WET/44377 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60156648001

METHOD BLANK: 1282991 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	11/04/13 12:59	

SAMPLE DUPLICATE: 1282992

Parameter	Units	60156620001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	390	363	7	25	

SAMPLE DUPLICATE: 1282993

Parameter	Units	60156687005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WET/44374
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60156648001

SAMPLE DUPLICATE: 1282540

Parameter	Units	60156627001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	0	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WET/44363
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60156648001

METHOD BLANK: 1282018 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	11/06/13 10:46	

LABORATORY CONTROL SAMPLE: 1282019

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	197	100	85-115	

SAMPLE DUPLICATE: 1282020

Parameter	Units	60156558005 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	3.3	4.0	19	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WETA/26972
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60156648001

METHOD BLANK: 1283157 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	11/05/13 09:14	

LABORATORY CONTROL SAMPLE: 1283158

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

MATRIX SPIKE SAMPLE: 1283159

Parameter	Units	60156648001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	778	1000	1720	94	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: WETA/26967
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60156648001

METHOD BLANK: 1283043 Matrix: Water
Associated Lab Samples: 60156648001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	11/05/13 09:18	

LABORATORY CONTROL SAMPLE: 1283044

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: 1283045

Parameter	Units	60156541001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	43100	50000	95600	105	90-110	

MATRIX SPIKE SAMPLE: 1283046

Parameter	Units	60156648001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	57200	50000	110000	106	90-110	

MATRIX SPIKE SAMPLE: 1283047

Parameter	Units	60156747001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	45900	50000	96300	101	90-110	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60156648001	**316-121**	EPA 200.7	MPRP/24969	EPA 200.7	ICP/19337
60156648001	**316-121**	EPA 200.7	MPRP/24968	EPA 200.7	ICP/19339
60156648001	**316-121**	EPA 245.1	MERP/7882	EPA 245.1	MERC/7838
60156648001	**316-121**	EPA 245.1	MERP/7881	EPA 245.1	MERC/7840
60156648001	**316-121**	EPA 625	OEXT/41282	EPA 625	MSSV/13109
60156648001	**316-121**	EPA 624 Low	MSV/57466		
60156648002	**TRIP BLANK**	EPA 624 Low	MSV/57466		
60156648001	**316-121**	EPA 1664A	WET/44367		
60156648001	**316-121**	EPA 1664A	WET/44396		
60156648001	**316-121**	SM 2540D	WET/44377		
60156648001	**316-121**	SM 4500-H+B	WET/44374		
60156648001	**316-121**	SM 5210B	WET/44363	SM 5210B	WET/44474
60156648001	**316-121**	EPA 350.1	WETA/26972		
60156648001	**316-121**	EPA 410.4	WETA/26967		

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Sample Condition Upon Receipt

WO#: 60156648

60156648

Client Name: Barr Engineering

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2-6

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 11/1/13 [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	BP3N initial pH 4.0, added 2.5mL final 3.0 BP3S, initial pH 4.0, added ~~2.5mL~~ add'l 2.0mL final 3.0
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 12513-10-9 – H2SO4, 12530-4-4 – NaOH
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: rmw for AKB Date: 11/1/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page :	1	Of	1

Section A
Required Client Information:

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

Section B
Required Project Information:

Report To:	ED GALBRAITH/BARR
Copy To:	SCOTT FEDAK/FEEZOR
	DANA BAKER/MARGARET TREANOR -BARR
Purchase Order No.	PO 3727110
Client Project ID:	BRIDGETON LF
Container Order Number:	

Section C
Invoice Information:

Attention:	JANET ROLLEN
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency	
State / Location	Missouri

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

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)	60156648
1	3/6-121 2BP2u, 2AG4u,	OT	G	10/31/13	0946	—			15	10	4	1	0	BP3u	3	AG		35	X	X	X	X	X	X	X	X	X	X	X	BP3N	20 BP3S 20 5DH4u 01
2	TRIP BLANK		—	—	—	—			2	2																X					2DH9u (TD) 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	David Linsicott / FEI	10-31-13	2:46pm	Kenyetta Heath	10-31-13	2:46pm				
SITE ADDRESS: BRIDGETON LF				EBrockett / Pace	11/1/13	0040	2.6	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 10/31/13