

September 19, 2013

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

RE: Project: MONTHLY UNTREATED COMMINGLED
Pace Project No.: 60152915

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Kansas Certification IDs

9608 Loiret Boulevard, Lenexa, KS 66219

WY STR Certification #: 2456.01

Arkansas Certification #: 13-012-0

Illinois Certification #: 003097

Iowa Certification #: 118

Kansas/NELAP Certification #: E-10116

Louisiana Certification #: 03055

Nevada Certification #: KS000212008A

Oklahoma Certification #: 9205/9935

Texas Certification #: T104704407-13-4

Utah Certification #: KS000212013-3

Illinois Certification #: 003097

Dallas Certification IDs

400 West Bethany Dr Suite 190 75013 Allen TX 75013

Texas Certification #: T104704232-12-4

Kansas Certification #: E-10388

Arkansas Certification #: 88-0647

Oklahoma Certification #: 2012-080

Louisiana Certification #: 02007

REPORT OF LABORATORY ANALYSIS

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SAMPLE SUMMARY

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152915001	TCLP SEP 2013	Water	09/11/13 08:00	09/12/13 01:30

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SAMPLE ANALYTE COUNT

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
60152915001	TCLP SEP 2013	EPA 8081	TA	9	PASI-D
		EPA 8151	PMS	3	PASI-D
		EPA 6010	NDJ	7	PASI-K
		EPA 7470	TDS	1	PASI-K
		EPA 8270	JMT	18	PASI-K
		EPA 8260	RAB	13	PASI-K

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ANALYTICAL RESULTS

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Sample: TCLP SEP 2013 Lab ID: 60152915001 Collected: 09/11/13 08:00 Received: 09/12/13 01:30 Matrix: Water									
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 GCS Pesticides, TCLP Analytical Method: EPA 8081 Preparation Method: EPA 3510									
gamma-BHC (Lindane)	ND mg/L		0.00020	.4	1	09/18/13 08:40	09/18/13 21:17	58-89-9	
Chlordane (Technical)	ND mg/L		0.0050	.03	1	09/18/13 08:40	09/18/13 21:17	57-74-9	
Endrin	ND mg/L		0.00020	.02	1	09/18/13 08:40	09/18/13 21:17	72-20-8	
Heptachlor	ND mg/L		0.00020	.008	1	09/18/13 08:40	09/18/13 21:17	76-44-8	
Heptachlor epoxide	ND mg/L		0.00050	.008	1	09/18/13 08:40	09/18/13 21:17	1024-57-3	
Methoxychlor	ND mg/L		0.00050	10	1	09/18/13 08:40	09/18/13 21:17	72-43-5	
Toxaphene	ND mg/L		0.010	.5	1	09/18/13 08:40	09/18/13 21:17	8001-35-2	
Surrogates									
Decachlorobiphenyl (S)	44 %		40-140		1	09/18/13 08:40	09/18/13 21:17	2051-24-3	
Tetrachloro-m-xylene (S)	111 %		40-140		1	09/18/13 08:40	09/18/13 21:17	877-09-8	
8151 Chlorinate Herbicide TCLP Analytical Method: EPA 8151 Preparation Method: EPA 8151									
2,4-D	ND mg/L		0.0050	10	10	09/17/13 17:34	09/19/13 13:19	94-75-7	
2,4,5-TP (Silvex)	ND mg/L		0.0050	1	10	09/17/13 17:34	09/19/13 13:19	93-72-1	
Surrogates									
2,4-DCAA (S)	0 %		40-140		10	09/17/13 17:34	09/19/13 13:19	19719-28-9	S4
6010 MET ICP, TCLP Analytical Method: EPA 6010 Preparation Method: EPA 3010									
Leachate Method/Date: EPA 1311; 09/14/13 00:00									
Arsenic	0.74 mg/L		0.50	5	1	09/16/13 11:20	09/16/13 16:34	7440-38-2	
Barium	4.4 mg/L		2.5	100	1	09/16/13 11:20	09/16/13 16:34	7440-39-3	
Cadmium	ND mg/L		0.050	1	1	09/16/13 11:20	09/16/13 16:34	7440-43-9	
Chromium	0.40 mg/L		0.10	5	1	09/16/13 11:20	09/16/13 16:34	7440-47-3	
Lead	ND mg/L		0.50	5	1	09/16/13 11:20	09/16/13 16:34	7439-92-1	
Selenium	ND mg/L		0.50	1	1	09/16/13 11:20	09/16/13 16:34	7782-49-2	
Silver	ND mg/L		0.10	5	1	09/16/13 11:20	09/16/13 16:34	7440-22-4	
7470 Mercury, TCLP Analytical Method: EPA 7470 Preparation Method: EPA 7470									
Leachate Method/Date: EPA 1311; 09/14/13 00:00									
Mercury	ND mg/L		0.0020	.2	1	09/16/13 17:30	09/17/13 10:43	7439-97-6	
8270 MSSV TCLP Sep Funnel Analytical Method: EPA 8270 Preparation Method: EPA 3510									
Leachate Method/Date: EPA 1311; 09/14/13 00:00									
1,4-Dichlorobenzene	ND ug/L		1000	7500	10	09/16/13 00:00	09/19/13 02:23	106-46-7	
2,4-Dinitrotoluene	ND ug/L		1000	130	10	09/16/13 00:00	09/19/13 02:23	121-14-2	
Hexachloro-1,3-butadiene	ND ug/L		1000	500	10	09/16/13 00:00	09/19/13 02:23	87-68-3	
Hexachlorobenzene	ND ug/L		1000	130	10	09/16/13 00:00	09/19/13 02:23	118-74-1	
Hexachloroethane	ND ug/L		1000	3000	10	09/16/13 00:00	09/19/13 02:23	67-72-1	
2-Methylphenol(o-Cresol)	ND ug/L		1000	200000	10	09/16/13 00:00	09/19/13 02:23	95-48-7	
3&4-Methylphenol(m&p Cresol)	9160 ug/L		2000	200000	10	09/16/13 00:00	09/19/13 02:23		
Nitrobenzene	ND ug/L		1000	2000	10	09/16/13 00:00	09/19/13 02:23	98-95-3	
Pentachlorophenol	ND ug/L		5000	100000	10	09/16/13 00:00	09/19/13 02:23	87-86-5	
Pyridine	ND ug/L		1000	5000	10	09/16/13 00:00	09/19/13 02:23	110-86-1	
2,4,5-Trichlorophenol	ND ug/L		5000	400000	10	09/16/13 00:00	09/19/13 02:23	95-95-4	
2,4,6-Trichlorophenol	ND ug/L		1000	2000	10	09/16/13 00:00	09/19/13 02:23	88-06-2	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Sample: TCLP SEP 2013		Lab ID: 60152915001		Collected: 09/11/13 08:00		Received: 09/12/13 01:30		Matrix: Water	
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV TCLP Sep Funnel		Analytical Method: EPA 8270 Preparation Method: EPA 3510							
		Leachate Method/Date: EPA 1311; 09/14/13 00:00							
Surrogates									
Nitrobenzene-d5 (S)	0 %		44-120		10	09/16/13 00:00	09/19/13 02:23	4165-60-0	S4
2-Fluorobiphenyl (S)	0 %		49-120		10	09/16/13 00:00	09/19/13 02:23	321-60-8	S4
Terphenyl-d14 (S)	0 %		52-122		10	09/16/13 00:00	09/19/13 02:23	1718-51-0	S4
Phenol-d6 (S)	0 %		36-120		10	09/16/13 00:00	09/19/13 02:23	13127-88-3	S4
2-Fluorophenol (S)	0 %		37-120		10	09/16/13 00:00	09/19/13 02:23	367-12-4	S4
2,4,6-Tribromophenol (S)	0 %		36-128		10	09/16/13 00:00	09/19/13 02:23	118-79-6	S4
8260 MSV TCLP		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 09/14/13 00:00							
Benzene	275 ug/L		250	500	5		09/16/13 18:36	71-43-2	
2-Butanone (MEK)	48100 ug/L		5000	200000	5		09/16/13 18:36	78-93-3	
Carbon tetrachloride	ND ug/L		250	500	5		09/16/13 18:36	56-23-5	
Chlorobenzene	ND ug/L		250	100000	5		09/16/13 18:36	108-90-7	
Chloroform	ND ug/L		1000	6000	5		09/16/13 18:36	67-66-3	
1,2-Dichloroethane	ND ug/L		250	500	5		09/16/13 18:36	107-06-2	
1,1-Dichloroethene	ND ug/L		250	700	5		09/16/13 18:36	75-35-4	
Tetrachloroethene	ND ug/L		250	700	5		09/16/13 18:36	127-18-4	L2
Trichloroethene	ND ug/L		250	500	5		09/16/13 18:36	79-01-6	
Vinyl chloride	ND ug/L		500	200	5		09/16/13 18:36	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	98 %		80-120		5		09/16/13 18:36	17060-07-0	
Toluene-d8 (S)	100 %		80-120		5		09/16/13 18:36	2037-26-5	
4-Bromofluorobenzene (S)	99 %		80-120		5		09/16/13 18:36	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch:	MERP/7712	Analysis Method:	EPA 7470
QC Batch Method:	EPA 7470	Analysis Description:	7470 Mercury TCLP
Associated Lab Samples:	60152915001		

METHOD BLANK: 1254127 Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	mg/L	ND	0.0020	09/17/13 10:05	

LABORATORY CONTROL SAMPLE: 1254128

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	mg/L	.015	0.014	94	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1254129 1254130

Parameter	Units	60152327001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	mg/L	ND	.015	.015	0.013	0.014	87	95	75-125	9	20	

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch: MPRP/24274

Analysis Method: EPA 6010

QC Batch Method: EPA 3010

Analysis Description: 6010 MET TCLP

Associated Lab Samples: 60152915001

METHOD BLANK: 1253947

Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Arsenic	mg/L	ND	0.50	09/16/13 16:16	
Barium	mg/L	ND	2.5	09/16/13 16:16	
Cadmium	mg/L	ND	0.050	09/16/13 16:16	
Chromium	mg/L	ND	0.10	09/16/13 16:16	
Lead	mg/L	ND	0.50	09/16/13 16:16	
Selenium	mg/L	ND	0.50	09/16/13 16:16	
Silver	mg/L	ND	0.10	09/16/13 16:16	

LABORATORY CONTROL SAMPLE: 1253948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Arsenic	mg/L	1	0.95	95	80-120	
Barium	mg/L	1	0.99	99	80-120	
Cadmium	mg/L	1	0.95	95	80-120	
Chromium	mg/L	1	0.98	98	80-120	
Lead	mg/L	1	0.99	99	80-120	
Selenium	mg/L	1	0.95	95	80-120	
Silver	mg/L	.5	0.46	92	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1253949

1253950

Parameter	Units	60152915001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic	mg/L	0.74	10	10	11.3	11.2	106	105	75-125	1	20	
Barium	mg/L	4.4	10	10	14.4	14.5	100	101	75-125	1	20	
Cadmium	mg/L	ND	10	10	10.2	10.2	102	102	75-125	0	20	
Chromium	mg/L	0.40	10	10	10.1	10.2	97	98	75-125	1	20	
Lead	mg/L	ND	10	10	9.6	9.6	92	92	75-125	1	20	
Selenium	mg/L	ND	10	10	11.4	11.4	114	114	75-125	0	20	
Silver	mg/L	ND	5	5	5.0	5.1	100	101	75-125	1	20	

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch: MSV/56292

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 60152915001

METHOD BLANK: 1253927

Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/16/13 17:50	
1,2-Dichloroethane	ug/L	ND	50.0	09/16/13 17:50	
2-Butanone (MEK)	ug/L	ND	1000	09/16/13 17:50	
Benzene	ug/L	ND	50.0	09/16/13 17:50	
Carbon tetrachloride	ug/L	ND	50.0	09/16/13 17:50	
Chlorobenzene	ug/L	ND	50.0	09/16/13 17:50	
Chloroform	ug/L	ND	200	09/16/13 17:50	
Tetrachloroethene	ug/L	ND	50.0	09/16/13 17:50	
Trichloroethene	ug/L	ND	50.0	09/16/13 17:50	
Vinyl chloride	ug/L	ND	100	09/16/13 17:50	
1,2-Dichloroethane-d4 (S)	%	100	80-120	09/16/13 17:50	
4-Bromofluorobenzene (S)	%	99	80-120	09/16/13 17:50	
Toluene-d8 (S)	%	100	80-120	09/16/13 17:50	

LABORATORY CONTROL SAMPLE: 1253928

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	812	81	70-127	
1,2-Dichloroethane	ug/L	1000	854	85	72-122	
2-Butanone (MEK)	ug/L	5000	4330	87	69-124	
Benzene	ug/L	1000	800	80	73-122	
Carbon tetrachloride	ug/L	1000	776	78	73-125	
Chlorobenzene	ug/L	1000	827	83	80-120	
Chloroform	ug/L	1000	789	79	76-120	
Tetrachloroethene	ug/L	1000	780	78	79-122	L0
Trichloroethene	ug/L	1000	789	79	76-120	
Vinyl chloride	ug/L	1000	707	71	57-140	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1253929

Parameter	Units	60152776001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	745	74	66-142	
1,2-Dichloroethane	ug/L	ND	1000	911	91	53-144	
2-Butanone (MEK)	ug/L	ND	5000	4770	95	54-127	
Benzene	ug/L	ND	1000	821	82	48-150	
Carbon tetrachloride	ug/L	ND	1000	794	79	68-145	
Chlorobenzene	ug/L	ND	1000	914	91	68-131	

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

MATRIX SPIKE SAMPLE:		1253929					
Parameter	Units	60152776001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	824	82	69-126	
Tetrachloroethene	ug/L	ND	1000	815	81	66-139	
Trichloroethene	ug/L	ND	1000	809	81	67-130	
Vinyl chloride	ug/L	ND	1000	602	60	47-159	
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				101	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch:	OEXT/2559	Analysis Method:	EPA 8081
QC Batch Method:	EPA 3510	Analysis Description:	8081 GCS TCLP Pesticides
Associated Lab Samples:	60152915001		

METHOD BLANK: 40858 Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chlordane (Technical)	mg/L	ND	0.00050	09/18/13 18:04	
Endrin	mg/L	ND	0.000020	09/18/13 18:04	
gamma-BHC (Lindane)	mg/L	ND	0.000020	09/18/13 18:04	
Heptachlor	mg/L	ND	0.000020	09/18/13 18:04	
Heptachlor epoxide	mg/L	ND	0.000050	09/18/13 18:04	
Methoxychlor	mg/L	ND	0.000050	09/18/13 18:04	
Toxaphene	mg/L	ND	0.0010	09/18/13 18:04	
Decachlorobiphenyl (S)	%	84	40-140	09/18/13 18:04	
Tetrachloro-m-xylene (S)	%	62	40-140	09/18/13 18:04	

LABORATORY CONTROL SAMPLE: 40859

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chlordane (Technical)	mg/L		ND			
Endrin	mg/L	.001	0.0013	126	40-140	
gamma-BHC (Lindane)	mg/L	.001	0.00088	88	40-140	
Heptachlor	mg/L	.001	0.00081	81	40-140	
Heptachlor epoxide	mg/L	.001	0.00094	94	40-140	
Methoxychlor	mg/L	.001	0.0013	130	40-140	
Toxaphene	mg/L		ND			
Decachlorobiphenyl (S)	%			93	40-140	
Tetrachloro-m-xylene (S)	%			56	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40860 40861

Parameter	Units	758109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chlordane (Technical)	mg/L	ND			ND	ND					40	
Endrin	mg/L	ND	.01	.01	0.011	0.011	111	110	40-140	1	40	
gamma-BHC (Lindane)	mg/L	ND	.01	.01	0.010	0.010	103	103	40-140	0	40	
Heptachlor	mg/L	ND	.01	.01	0.0086	0.0095	86	95	40-140	11	40	
Heptachlor epoxide	mg/L	ND	.01	.01	0.0082	0.010	82	100	40-140	21	40	
Methoxychlor	mg/L	ND	.01	.01	0.014	0.015	138	147	40-140	6	40 M1	
Toxaphene	mg/L	ND			ND	ND					40	
Decachlorobiphenyl (S)	%						95	94	40-140			
Tetrachloro-m-xylene (S)	%						64	67	40-140			

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch:	OEXT/2554	Analysis Method:	EPA 8151
QC Batch Method:	EPA 8151	Analysis Description:	8151 GCS TCLP Herbicides
Associated Lab Samples:	60152915001		

METHOD BLANK: 40823 Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
2,4,5-TP (Silvex)	mg/L	ND	0.000050	09/18/13 17:37	
2,4-D	mg/L	ND	0.000050	09/18/13 17:37	
2,4-DCAA (S)	%.	94	40-140	09/18/13 17:37	

LABORATORY CONTROL SAMPLE: 40824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4,5-TP (Silvex)	mg/L	.002	0.0020	99	10-140	
2,4-D	mg/L	.002	0.0016	80	40-140	
2,4-DCAA (S)	%.			98	40-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 40825 40826

Parameter	Units	758109001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
2,4,5-TP (Silvex)	mg/L	ND	.02	.02	0.021	0.023	103	114	10-140	10	40	
2,4-D	mg/L	ND	.02	.02	0.024	0.022	120	110	40-140	9	40	
2,4-DCAA (S)	%.						55	106	40-140			

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

QC Batch: OEXT/40466

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

Analysis Description: 8270 TCLP MSSV

Associated Lab Samples: 60152915001

METHOD BLANK: 1253781

Matrix: Water

Associated Lab Samples: 60152915001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	100	09/18/13 12:10	
2,4,5-Trichlorophenol	ug/L	ND	500	09/18/13 12:10	
2,4,6-Trichlorophenol	ug/L	ND	100	09/18/13 12:10	
2,4-Dinitrotoluene	ug/L	ND	100	09/18/13 12:10	
2-Methylphenol(o-Cresol)	ug/L	ND	100	09/18/13 12:10	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	200	09/18/13 12:10	
Hexachloro-1,3-butadiene	ug/L	ND	100	09/18/13 12:10	
Hexachlorobenzene	ug/L	ND	100	09/18/13 12:10	
Hexachloroethane	ug/L	ND	100	09/18/13 12:10	
Nitrobenzene	ug/L	ND	100	09/18/13 12:10	
Pentachlorophenol	ug/L	ND	500	09/18/13 12:10	
Pyridine	ug/L	ND	100	09/18/13 12:10	
2,4,6-Tribromophenol (S)	%	80	36-128	09/18/13 12:10	
2-Fluorobiphenyl (S)	%	70	49-120	09/18/13 12:10	
2-Fluorophenol (S)	%	56	37-120	09/18/13 12:10	
Nitrobenzene-d5 (S)	%	72	44-120	09/18/13 12:10	
Phenol-d6 (S)	%	64	36-120	09/18/13 12:10	
Terphenyl-d14 (S)	%	84	52-122	09/18/13 12:10	

LABORATORY CONTROL SAMPLE: 1253782

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	500	350	70	47-120	
2,4,5-Trichlorophenol	ug/L	500	405J	81	51-124	
2,4,6-Trichlorophenol	ug/L	500	388	78	46-120	
2,4-Dinitrotoluene	ug/L	500	326	65	38-120	
2-Methylphenol(o-Cresol)	ug/L	500	345	69	46-120	
3&4-Methylphenol(m&p Cresol)	ug/L	1000	720	72	41-120	
Hexachloro-1,3-butadiene	ug/L	500	429	86	49-120	
Hexachlorobenzene	ug/L	500	416	83	50-120	
Hexachloroethane	ug/L	500	254	51	38-120	
Nitrobenzene	ug/L	500	391	78	49-120	
Pentachlorophenol	ug/L	500	412J	82	35-125	
Pyridine	ug/L	500	152	30	10-120	
2,4,6-Tribromophenol (S)	%			88	36-128	
2-Fluorobiphenyl (S)	%			73	49-120	
2-Fluorophenol (S)	%			58	37-120	
Nitrobenzene-d5 (S)	%			75	44-120	
Phenol-d6 (S)	%			66	36-120	
Terphenyl-d14 (S)	%			89	52-122	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

MATRIX SPIKE SAMPLE:		1254234					
Parameter	Units	60152872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,4-Dichlorobenzene	ug/L	ND	500	254	51	48-120	
2,4,5-Trichlorophenol	ug/L	ND	500	364J	73	57-120	
2,4,6-Trichlorophenol	ug/L	ND	500	327	65	48-120	
2,4-Dinitrotoluene	ug/L	ND	500	276	55	38-120	
2-Methylphenol(o-Cresol)	ug/L	ND	500	276	55	48-120	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	1000	575	58	47-120	
Hexachloro-1,3-butadiene	ug/L	ND	500	318	64	49-120	
Hexachlorobenzene	ug/L	ND	500	345	69	53-120	
Hexachloroethane	ug/L	ND	500	185	37	38-120	M1
Nitrobenzene	ug/L	ND	500	292	58	51-120	
Pentachlorophenol	ug/L	ND	500	339J	68	34-131	
Pyridine	ug/L	ND	500	271	54	10-120	
2,4,6-Tribromophenol (S)	%				74	36-128	
2-Fluorobiphenyl (S)	%				58	49-120	
2-Fluorophenol (S)	%				44	37-120	
Nitrobenzene-d5 (S)	%				56	44-120	
Phenol-d6 (S)	%				53	36-120	
Terphenyl-d14 (S)	%				76	52-122	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

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.

LABORATORIES

PASI-D Pace Analytical Services - Dallas

PASI-K Pace Analytical Services - Kansas City

ANALYTE QUALIFIERS

L0 Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

L2 Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: MONTHLY UNTREATED COMMINGLED

Pace Project No.: 60152915

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152915001	TCLP SEP 2013	EPA 3510	OEXT/2559	EPA 8081	GCSV/1844
60152915001	TCLP SEP 2013	EPA 8151	OEXT/2554	EPA 8151	GCSV/1845
60152915001	TCLP SEP 2013	EPA 3010	MPRP/24274	EPA 6010	ICP/18941
60152915001	TCLP SEP 2013	EPA 7470	MERP/7712	EPA 7470	MERC/7667
60152915001	TCLP SEP 2013	EPA 3510	OEXT/40466	EPA 8270	MSSV/12825
60152915001	TCLP SEP 2013	EPA 8260	MSV/56292		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60152915



Client Name: Barr Eng

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

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

Cooler Temperature: 0 - 1

Date and initials of person examining contents: 9/12/13 BA

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.
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		18.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	19.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	20.

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A

Required Client Information:

Company: BARR ENGINEERING
Address:
Email To:
Phone:
Requested Due Date/TAT:

Section B

Required Project Information:

Report To: ED GALBRAITH/BARR
Copy To: SCOTT FEDAK/FEEZOR
DANA BAKER/MARGARET TREANOR-BARR
Purchase Order No.: PO 3727110
Project Name: MONTHLY UNTREATED COMMINGLED
Project Number:

Section C

Invoice Information:

Attention: JANET ROLLEN
Company Name: REPUBLIC SERVICES
Address: BRIDGETON, MO 63044
Pace Quote Reference:
Pace Project Manager: Angie Brown 913-563-1402
Pace Profile #: PROFILE 6787-LINE 6

Page: 1 of 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location: MO
STATE:

ITEM #	Section D Required Client Information SAMPLE ID (A-Z, 0-9 / .-) Sample :Ds MUST BE UNIQUE	Valid Matrix Codes MATRIX CODE CODE		MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N ↓	Requested Analysis Filtered (Y/N)										Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		COMPOSITE START				COMPOSITE END/GRAB		Unpreserved	H ₂ SO ₄			HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other	TCLP VOC EPA 8260	TCLP SVOC EPA 8270		TCLP RCRA 8 6010/7470	TCLP PEST EPA 8081	TCLP HERB EPA 8151																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Conrad M. F. Zedler	09-11-13	17:45	William A. Bernath	9/11/13	1745	
				Conrad M. F. Zedler	9/12/13	0130	2-1 Y Y Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed
(MM/DD/YY):

9/11/13

Temp in °C
Received on Ice (Y/N)
Custody Sealed Cooler (Y/N)
Samples Intact (Y/N)

September 24, 2013

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

RE: Project: BRIDGETON LF TCLP W/O 9/16/13
Pace Project No.: 60153500

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

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 TCLP W/O 9/16/13

Pace Project No.: 60153500

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60153500001	TCLP W/O 9/16/13	Water	09/18/13 10:50	09/19/13 01:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60153500001	TCLP W/O 9/16/13	EPA 8260	RAB	13

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

Sample: TCLP W/O 9/16/13		Lab ID: 60153500001		Collected: 09/18/13 10:50		Received: 09/19/13 01:05		Matrix: Water	
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 09/21/13 00:00							
Benzene	550 ug/L		250	500	5		09/23/13 10:28	71-43-2	
2-Butanone (MEK)	40900 ug/L		5000	200000	5		09/23/13 10:28	78-93-3	
Carbon tetrachloride	ND ug/L		250	500	5		09/23/13 10:28	56-23-5	
Chlorobenzene	ND ug/L		250	100000	5		09/23/13 10:28	108-90-7	
Chloroform	ND ug/L		1000	6000	5		09/23/13 10:28	67-66-3	
1,2-Dichloroethane	ND ug/L		250	500	5		09/23/13 10:28	107-06-2	
1,1-Dichloroethene	ND ug/L		250	700	5		09/23/13 10:28	75-35-4	
Tetrachloroethene	ND ug/L		250	700	5		09/23/13 10:28	127-18-4	
Trichloroethene	ND ug/L		250	500	5		09/23/13 10:28	79-01-6	
Vinyl chloride	ND ug/L		500	200	5		09/23/13 10:28	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		80-120		5		09/23/13 10:28	17060-07-0	
Toluene-d8 (S)	101 %		80-120		5		09/23/13 10:28	2037-26-5	
4-Bromofluorobenzene (S)	101 %		80-120		5		09/23/13 10:28	460-00-4	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

QC Batch: MSV/56479

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 60153500001

METHOD BLANK: 1258419

Matrix: Water

Associated Lab Samples: 60153500001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	09/23/13 10:13	
1,2-Dichloroethane	ug/L	ND	50.0	09/23/13 10:13	
2-Butanone (MEK)	ug/L	ND	1000	09/23/13 10:13	
Benzene	ug/L	ND	50.0	09/23/13 10:13	
Carbon tetrachloride	ug/L	ND	50.0	09/23/13 10:13	
Chlorobenzene	ug/L	ND	50.0	09/23/13 10:13	
Chloroform	ug/L	ND	200	09/23/13 10:13	
Tetrachloroethene	ug/L	ND	50.0	09/23/13 10:13	
Trichloroethene	ug/L	ND	50.0	09/23/13 10:13	
Vinyl chloride	ug/L	ND	100	09/23/13 10:13	
1,2-Dichloroethane-d4 (S)	%	99	80-120	09/23/13 10:13	
4-Bromofluorobenzene (S)	%	99	80-120	09/23/13 10:13	
Toluene-d8 (S)	%	100	80-120	09/23/13 10:13	

LABORATORY CONTROL SAMPLE: 1258420

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1270	127	70-127	
1,2-Dichloroethane	ug/L	1000	1070	107	72-122	
2-Butanone (MEK)	ug/L	5000	4990	100	69-124	
Benzene	ug/L	1000	1120	112	73-122	
Carbon tetrachloride	ug/L	1000	1240	124	73-125	
Chlorobenzene	ug/L	1000	1100	110	80-120	
Chloroform	ug/L	1000	1080	108	76-120	
Tetrachloroethene	ug/L	1000	1190	119	79-122	
Trichloroethene	ug/L	1000	1140	114	76-120	
Vinyl chloride	ug/L	1000	1280	128	57-140	
1,2-Dichloroethane-d4 (S)	%			100	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1258421

Parameter	Units	60153500001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	5000	5710	114	66-142	
1,2-Dichloroethane	ug/L	ND	5000	5670	113	53-144	
2-Butanone (MEK)	ug/L	40900	25000	72200	125	54-127	
Benzene	ug/L	550	5000	5980	109	48-150	
Carbon tetrachloride	ug/L	ND	5000	6140	123	68-145	
Chlorobenzene	ug/L	ND	5000	5850	117	68-131	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

MATRIX SPIKE SAMPLE:		1258421					
Parameter	Units	60153500001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	5000	5520	110	69-126	
Tetrachloroethene	ug/L	ND	5000	5950	119	66-139	
Trichloroethene	ug/L	ND	5000	5620	112	67-130	
Vinyl chloride	ug/L	ND	5000	5260	105	47-159	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				102	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

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.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF TCLP W/O 9/16/13

Pace Project No.: 60153500

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60153500001	TCLP W/O 9/16/13	EPA 8260	MSV/56479		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60153500



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 ☐

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

Date and initials of person examining contents: 8/9/19

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
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: <u>WT</u>	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 <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No ☐ N/A	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State:

Client Notification/ Resolution:

Copy COC to Client? Y ☐ N ☒

Field Data Required? Y ☐ N ☒

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 8/20/19

October 08, 2013

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

RE: Project: WEEKLY UNTREATED COMMINGLED
Pace Project No.: 60154060

Dear Ed Galbraith:

Enclosed are the analytical results for sample(s) received by the laboratory on September 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.

Amended report revised 10/7/13 to include an additional analysis for TCLP at a lower dilution.

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

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CERTIFICATIONS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

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: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154060001	TCLP W/O 9/23/13	Water	09/25/13 10:24	09/26/13 02:20

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SAMPLE ANALYTE COUNT

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154060001	TCLP W/O 9/23/13	EPA 8260	JTS, PRG	13
		EPA 5030B/8260	JTS	69
		SM 2540B	RAH	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Sample: TCLP W/O 9/23/13 Lab ID: 60154060001 Collected: 09/25/13 10:24 Received: 09/26/13 02:20 Matrix: Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 10/01/13 00:00									
Benzene	ND	ug/L	2500	500	50		10/02/13 10:10	71-43-2	
Benzene	518	ug/L	250	500	5		10/05/13 00:54	71-43-2	
2-Butanone (MEK)	58200	ug/L	50000	200000	50		10/02/13 10:10	78-93-3	
Carbon tetrachloride	ND	ug/L	2500	500	50		10/02/13 10:10	56-23-5	
Carbon tetrachloride	ND	ug/L	250	500	5		10/05/13 00:54	56-23-5	
Chlorobenzene	ND	ug/L	2500	100000	50		10/02/13 10:10	108-90-7	
Chlorobenzene	ND	ug/L	250	100000	5		10/05/13 00:54	108-90-7	
Chloroform	ND	ug/L	10000	6000	50		10/02/13 10:10	67-66-3	
Chloroform	ND	ug/L	1000	6000	5		10/05/13 00:54	67-66-3	
1,2-Dichloroethane	ND	ug/L	2500	500	50		10/02/13 10:10	107-06-2	
1,2-Dichloroethane	ND	ug/L	250	500	5		10/05/13 00:54	107-06-2	
1,1-Dichloroethene	ND	ug/L	2500	700	50		10/02/13 10:10	75-35-4	
1,1-Dichloroethene	ND	ug/L	250	700	5		10/05/13 00:54	75-35-4	
Tetrachloroethene	ND	ug/L	2500	700	50		10/02/13 10:10	127-18-4	
Tetrachloroethene	ND	ug/L	250	700	5		10/05/13 00:54	127-18-4	
Trichloroethene	ND	ug/L	2500	500	50		10/02/13 10:10	79-01-6	
Trichloroethene	ND	ug/L	250	500	5		10/05/13 00:54	79-01-6	
Vinyl chloride	ND	ug/L	5000	200	50		10/02/13 10:10	75-01-4	
Vinyl chloride	ND	ug/L	500	200	5		10/05/13 00:54	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	106	%	80-120		50		10/02/13 10:10	17060-07-0	
1,2-Dichloroethane-d4 (S)	96	%	80-120		5		10/05/13 00:54	17060-07-0	
Toluene-d8 (S)	100	%	80-120		5		10/05/13 00:54	2037-26-5	
Toluene-d8 (S)	96	%	80-120		50		10/02/13 10:10	2037-26-5	
4-Bromofluorobenzene (S)	100	%	80-120		50		10/02/13 10:10	460-00-4	
4-Bromofluorobenzene (S)	99	%	80-120		5		10/05/13 00:54	460-00-4	

8260 MSV Analytical Method: EPA 5030B/8260

Acetone	113000	ug/L	5000		500		09/27/13 21:20	67-64-1	
Benzene	828	ug/L	500		500		09/27/13 21:20	71-43-2	
Bromobenzene	ND	ug/L	500		500		09/27/13 21:20	108-86-1	
Bromochloromethane	ND	ug/L	500		500		09/27/13 21:20	74-97-5	
Bromodichloromethane	ND	ug/L	500		500		09/27/13 21:20	75-27-4	
Bromoform	ND	ug/L	500		500		09/27/13 21:20	75-25-2	
Bromomethane	108J	ug/L	2500		500		09/27/13 21:20	74-83-9	
2-Butanone (MEK)	61300	ug/L	5000		500		09/27/13 21:20	78-93-3	
n-Butylbenzene	ND	ug/L	500		500		09/27/13 21:20	104-51-8	
sec-Butylbenzene	ND	ug/L	500		500		09/27/13 21:20	135-98-8	
tert-Butylbenzene	ND	ug/L	500		500		09/27/13 21:20	98-06-6	
Carbon disulfide	ND	ug/L	2500		500		09/27/13 21:20	75-15-0	
Carbon tetrachloride	ND	ug/L	500		500		09/27/13 21:20	56-23-5	
Chlorobenzene	ND	ug/L	500		500		09/27/13 21:20	108-90-7	
Chloroethane	ND	ug/L	500		500		09/27/13 21:20	75-00-3	
Chloroform	ND	ug/L	500		500		09/27/13 21:20	67-66-3	
Chloromethane	ND	ug/L	500		500		09/27/13 21:20	74-87-3	
2-Chlorotoluene	ND	ug/L	500		500		09/27/13 21:20	95-49-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Sample: TCLP W/O 9/23/13		Lab ID: 60154060001		Collected: 09/25/13 10:24		Received: 09/26/13 02:20		Matrix: Water	
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260							
4-Chlorotoluene	ND	ug/L	500		500		09/27/13 21:20	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1250		500		09/27/13 21:20	96-12-8	
Dibromochloromethane	ND	ug/L	500		500		09/27/13 21:20	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	500		500		09/27/13 21:20	106-93-4	
Dibromomethane	ND	ug/L	500		500		09/27/13 21:20	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	500		500		09/27/13 21:20	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	500		500		09/27/13 21:20	541-73-1	
1,4-Dichlorobenzene	102J	ug/L	500		500		09/27/13 21:20	106-46-7	
Dichlorodifluoromethane	ND	ug/L	500		500		09/27/13 21:20	75-71-8	
1,1-Dichloroethane	ND	ug/L	500		500		09/27/13 21:20	75-34-3	
1,2-Dichloroethane	ND	ug/L	500		500		09/27/13 21:20	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	500		500		09/27/13 21:20	540-59-0	
1,1-Dichloroethene	ND	ug/L	500		500		09/27/13 21:20	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	500		500		09/27/13 21:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500		500		09/27/13 21:20	156-60-5	
1,2-Dichloropropane	ND	ug/L	500		500		09/27/13 21:20	78-87-5	
1,3-Dichloropropane	ND	ug/L	500		500		09/27/13 21:20	142-28-9	
2,2-Dichloropropane	ND	ug/L	500		500		09/27/13 21:20	594-20-7	
1,1-Dichloropropene	ND	ug/L	500		500		09/27/13 21:20	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	500		500		09/27/13 21:20	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	500		500		09/27/13 21:20	10061-02-6	
Ethylbenzene	ND	ug/L	500		500		09/27/13 21:20	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	500		500		09/27/13 21:20	87-68-3	
2-Hexanone	ND	ug/L	5000		500		09/27/13 21:20	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	500		500		09/27/13 21:20	98-82-8	
p-Isopropyltoluene	203J	ug/L	500		500		09/27/13 21:20	99-87-6	
Methylene chloride	ND	ug/L	500		500		09/27/13 21:20	75-09-2	
4-Methyl-2-pentanone (MIBK)	1600J	ug/L	5000		500		09/27/13 21:20	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	500		500		09/27/13 21:20	1634-04-4	
Naphthalene	ND	ug/L	5000		500		09/27/13 21:20	91-20-3	
n-Propylbenzene	ND	ug/L	500		500		09/27/13 21:20	103-65-1	
Styrene	ND	ug/L	500		500		09/27/13 21:20	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	500		500		09/27/13 21:20	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	500		500		09/27/13 21:20	79-34-5	
Tetrachloroethene	ND	ug/L	500		500		09/27/13 21:20	127-18-4	
Toluene	106J	ug/L	500		500		09/27/13 21:20	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	500		500		09/27/13 21:20	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	500		500		09/27/13 21:20	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	500		500		09/27/13 21:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500		500		09/27/13 21:20	79-00-5	
Trichloroethene	ND	ug/L	500		500		09/27/13 21:20	79-01-6	
Trichlorofluoromethane	ND	ug/L	500		500		09/27/13 21:20	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1250		500		09/27/13 21:20	96-18-4	
1,2,4-Trimethylbenzene	72.6J	ug/L	500		500		09/27/13 21:20	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	500		500		09/27/13 21:20	108-67-8	
Vinyl chloride	ND	ug/L	500		500		09/27/13 21:20	75-01-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Sample: TCLP W/O 9/23/13		Lab ID: 60154060001		Collected: 09/25/13 10:24		Received: 09/26/13 02:20		Matrix: Water	
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV		Analytical Method: EPA 5030B/8260							
Xylene (Total)	ND	ug/L	1500		500		09/27/13 21:20	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102	%	80-120		500		09/27/13 21:20	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	80-120		500		09/27/13 21:20	17060-07-0	
Toluene-d8 (S)	102	%	80-120		500		09/27/13 21:20	2037-26-5	
Preservation pH	6.0		0.10		500		09/27/13 21:20		pH
2540B Total Solids		Analytical Method: SM 2540B							
Total Solids	80900	mg/L	5.0		1		10/01/13 16:59		

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

QC Batch:	MSV/56698	Analysis Method:	EPA 8260
QC Batch Method:	EPA 8260	Analysis Description:	8260 MSV TCLP
Associated Lab Samples:	60154060001		

METHOD BLANK: 1263810 Matrix: Water

Associated Lab Samples: 60154060001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	10/02/13 09:56	
1,2-Dichloroethane	ug/L	ND	50.0	10/02/13 09:56	
2-Butanone (MEK)	ug/L	ND	1000	10/02/13 09:56	
Benzene	ug/L	ND	50.0	10/02/13 09:56	
Carbon tetrachloride	ug/L	ND	50.0	10/02/13 09:56	
Chlorobenzene	ug/L	ND	50.0	10/02/13 09:56	
Chloroform	ug/L	ND	200	10/02/13 09:56	
Tetrachloroethene	ug/L	ND	50.0	10/02/13 09:56	
Trichloroethene	ug/L	ND	50.0	10/02/13 09:56	
Vinyl chloride	ug/L	ND	100	10/02/13 09:56	
1,2-Dichloroethane-d4 (S)	%	103	80-120	10/02/13 09:56	
4-Bromofluorobenzene (S)	%	99	80-120	10/02/13 09:56	
Toluene-d8 (S)	%	101	80-120	10/02/13 09:56	

LABORATORY CONTROL SAMPLE: 1263811

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	200	210	105	70-127	
1,2-Dichloroethane	ug/L	200	234	117	72-122	
2-Butanone (MEK)	ug/L	1000	991J	99	69-124	
Benzene	ug/L	200	195	97	73-122	
Carbon tetrachloride	ug/L	200	222	111	73-125	
Chlorobenzene	ug/L	200	199	100	80-120	
Chloroform	ug/L	200	212	106	76-120	
Tetrachloroethene	ug/L	200	200	100	79-122	
Trichloroethene	ug/L	200	203	101	76-120	
Vinyl chloride	ug/L	200	149	75	57-140	
1,2-Dichloroethane-d4 (S)	%			103	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1263812

Parameter	Units	60154223001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	200	200	100	66-142	
1,2-Dichloroethane	ug/L	ND	200	228	110	53-144	
2-Butanone (MEK)	ug/L	ND	1000	933J	85	54-127	
Benzene	ug/L	ND	200	181	90	48-150	
Carbon tetrachloride	ug/L	ND	200	214	107	68-145	
Chlorobenzene	ug/L	ND	200	184	92	68-131	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

MATRIX SPIKE SAMPLE:		1263812					
Parameter	Units	60154223001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	200	211	104	69-126	
Tetrachloroethene	ug/L	ND	200	232	97	66-139	
Trichloroethene	ug/L	ND	200	196	97	67-130	
Vinyl chloride	ug/L	ND	200	136	68	47-159	
1,2-Dichloroethane-d4 (S)	%				101	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

QC Batch: MSV/56799

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 60154060001

METHOD BLANK: 1266441

Matrix: Water

Associated Lab Samples: 60154060001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	10/05/13 00:38	
1,2-Dichloroethane	ug/L	ND	50.0	10/05/13 00:38	
Benzene	ug/L	ND	50.0	10/05/13 00:38	
Carbon tetrachloride	ug/L	ND	50.0	10/05/13 00:38	
Chlorobenzene	ug/L	ND	50.0	10/05/13 00:38	
Chloroform	ug/L	ND	200	10/05/13 00:38	
Tetrachloroethene	ug/L	ND	50.0	10/05/13 00:38	
Trichloroethene	ug/L	ND	50.0	10/05/13 00:38	
Vinyl chloride	ug/L	ND	100	10/05/13 00:38	
1,2-Dichloroethane-d4 (S)	%	97	80-120	10/05/13 00:38	
4-Bromofluorobenzene (S)	%	100	80-120	10/05/13 00:38	
Toluene-d8 (S)	%	100	80-120	10/05/13 00:38	

LABORATORY CONTROL SAMPLE: 1266442

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	200	211	105	70-127	
1,2-Dichloroethane	ug/L	200	196	98	72-122	
Benzene	ug/L	200	198	99	73-122	
Carbon tetrachloride	ug/L	200	221	111	73-125	
Chlorobenzene	ug/L	200	211	105	80-120	
Chloroform	ug/L	200	200	100	76-120	
Tetrachloroethene	ug/L	200	208	104	79-122	
Trichloroethene	ug/L	200	199	99	76-120	
Vinyl chloride	ug/L	200	196	98	57-140	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1266443

Parameter	Units	60154060001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	1020	102	66-142	
1,2-Dichloroethane	ug/L	ND	1000	981	98	53-144	
Benzene	ug/L	518	1000	1480	96	48-150	
Carbon tetrachloride	ug/L	ND	1000	1010	101	68-145	
Chlorobenzene	ug/L	ND	1000	1030	103	68-131	
Chloroform	ug/L	ND	1000	1120	100	69-126	
Tetrachloroethene	ug/L	ND	1000	999	100	66-139	
Trichloroethene	ug/L	ND	1000	995	99	67-130	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

MATRIX SPIKE SAMPLE:		1266443					
Parameter	Units	60154060001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Vinyl chloride	ug/L	ND	1000	978	98	47-159	
1,2-Dichloroethane-d4 (S)	%				94	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

QC Batch:	MSV/56616	Analysis Method:	EPA 5030B/8260
QC Batch Method:	EPA 5030B/8260	Analysis Description:	8260 MSV Water 10 mL Purge
Associated Lab Samples:	60154060001		

METHOD BLANK: 1261938 Matrix: Water

Associated Lab Samples: 60154060001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,1,1-Trichloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,1-Dichloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,1-Dichloroethene	ug/L	ND	1.0	09/27/13 16:04	
1,1-Dichloropropene	ug/L	ND	1.0	09/27/13 16:04	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
1,2,3-Trichloropropane	ug/L	ND	2.5	09/27/13 16:04	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	09/27/13 16:04	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	09/27/13 16:04	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	09/27/13 16:04	
1,2-Dichlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
1,2-Dichloroethane	ug/L	ND	1.0	09/27/13 16:04	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	09/27/13 16:04	
1,2-Dichloropropane	ug/L	ND	1.0	09/27/13 16:04	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	09/27/13 16:04	
1,3-Dichlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
1,3-Dichloropropane	ug/L	ND	1.0	09/27/13 16:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
2,2-Dichloropropane	ug/L	ND	1.0	09/27/13 16:04	
2-Butanone (MEK)	ug/L	ND	10.0	09/27/13 16:04	
2-Chlorotoluene	ug/L	ND	1.0	09/27/13 16:04	
2-Hexanone	ug/L	ND	10.0	09/27/13 16:04	
4-Chlorotoluene	ug/L	ND	1.0	09/27/13 16:04	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	09/27/13 16:04	
Acetone	ug/L	ND	10.0	09/27/13 16:04	
Benzene	ug/L	ND	1.0	09/27/13 16:04	
Bromobenzene	ug/L	ND	1.0	09/27/13 16:04	
Bromochloromethane	ug/L	ND	1.0	09/27/13 16:04	
Bromodichloromethane	ug/L	ND	1.0	09/27/13 16:04	
Bromoform	ug/L	ND	1.0	09/27/13 16:04	
Bromomethane	ug/L	0.22J	5.0	09/27/13 16:04	
Carbon disulfide	ug/L	ND	5.0	09/27/13 16:04	
Carbon tetrachloride	ug/L	ND	1.0	09/27/13 16:04	
Chlorobenzene	ug/L	ND	1.0	09/27/13 16:04	
Chloroethane	ug/L	ND	1.0	09/27/13 16:04	
Chloroform	ug/L	ND	1.0	09/27/13 16:04	
Chloromethane	ug/L	ND	1.0	09/27/13 16:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/27/13 16:04	
cis-1,3-Dichloropropene	ug/L	ND	1.0	09/27/13 16:04	
Dibromochloromethane	ug/L	ND	1.0	09/27/13 16:04	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

METHOD BLANK: 1261938

Matrix: Water

Associated Lab Samples: 60154060001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	09/27/13 16:04	
Dichlorodifluoromethane	ug/L	ND	1.0	09/27/13 16:04	
Ethylbenzene	ug/L	ND	1.0	09/27/13 16:04	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	09/27/13 16:04	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	09/27/13 16:04	
Methyl-tert-butyl ether	ug/L	ND	1.0	09/27/13 16:04	
Methylene chloride	ug/L	ND	1.0	09/27/13 16:04	
n-Butylbenzene	ug/L	ND	1.0	09/27/13 16:04	
n-Propylbenzene	ug/L	ND	1.0	09/27/13 16:04	
Naphthalene	ug/L	ND	10.0	09/27/13 16:04	
p-Isopropyltoluene	ug/L	ND	1.0	09/27/13 16:04	
sec-Butylbenzene	ug/L	ND	1.0	09/27/13 16:04	
Styrene	ug/L	ND	1.0	09/27/13 16:04	
tert-Butylbenzene	ug/L	ND	1.0	09/27/13 16:04	
Tetrachloroethene	ug/L	ND	1.0	09/27/13 16:04	
Toluene	ug/L	ND	1.0	09/27/13 16:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/27/13 16:04	
trans-1,3-Dichloropropene	ug/L	ND	1.0	09/27/13 16:04	
Trichloroethene	ug/L	ND	1.0	09/27/13 16:04	
Trichlorofluoromethane	ug/L	ND	1.0	09/27/13 16:04	
Vinyl chloride	ug/L	ND	1.0	09/27/13 16:04	
Xylene (Total)	ug/L	ND	3.0	09/27/13 16:04	
1,2-Dichloroethane-d4 (S)	%	97	80-120	09/27/13 16:04	
4-Bromofluorobenzene (S)	%	99	80-120	09/27/13 16:04	
Toluene-d8 (S)	%	98	80-120	09/27/13 16:04	

LABORATORY CONTROL SAMPLE: 1261939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.9	110	79-121	
1,1,1-Trichloroethane	ug/L	20	20.0	100	75-124	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	89	73-120	
1,1,2-Trichloroethane	ug/L	20	18.3	91	76-120	
1,1-Dichloroethane	ug/L	20	18.4	92	73-120	
1,1-Dichloroethene	ug/L	20	20.8	104	70-127	
1,1-Dichloropropene	ug/L	20	20.6	103	79-124	
1,2,3-Trichlorobenzene	ug/L	20	18.0	90	68-130	
1,2,3-Trichloropropane	ug/L	20	17.2	86	72-124	
1,2,4-Trichlorobenzene	ug/L	20	18.2	91	73-125	
1,2,4-Trimethylbenzene	ug/L	20	20.0	100	76-120	
1,2-Dibromo-3-chloropropane	ug/L	20	16.5	83	68-126	
1,2-Dibromoethane (EDB)	ug/L	20	20.0	100	79-121	
1,2-Dichlorobenzene	ug/L	20	20.3	101	79-120	
1,2-Dichloroethane	ug/L	20	19.5	98	72-122	
1,2-Dichloroethene (Total)	ug/L	40	41.2	103	77-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

LABORATORY CONTROL SAMPLE: 1261939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	20	19.5	98	77-120	
1,3,5-Trimethylbenzene	ug/L	20	20.2	101	75-120	
1,3-Dichlorobenzene	ug/L	20	20.2	101	80-120	
1,3-Dichloropropane	ug/L	20	19.1	95	76-120	
1,4-Dichlorobenzene	ug/L	20	20.0	100	80-120	
2,2-Dichloropropane	ug/L	20	19.7	99	52-135	
2-Butanone (MEK)	ug/L	100	81.1	81	69-124	
2-Chlorotoluene	ug/L	20	20.4	102	78-120	
2-Hexanone	ug/L	100	78.5	78	70-125	
4-Chlorotoluene	ug/L	20	20.2	101	80-120	
4-Methyl-2-pentanone (MIBK)	ug/L	100	85.1	85	72-123	
Acetone	ug/L	100	74.3	74	60-126	
Benzene	ug/L	20	19.6	98	73-122	
Bromobenzene	ug/L	20	20.6	103	79-120	
Bromochloromethane	ug/L	20	20.8	104	76-125	
Bromodichloromethane	ug/L	20	18.7	94	73-120	
Bromoform	ug/L	20	20.9	104	74-120	
Bromomethane	ug/L	20	16.6	83	40-146	
Carbon disulfide	ug/L	20	17.8	89	62-125	
Carbon tetrachloride	ug/L	20	21.0	105	73-125	
Chlorobenzene	ug/L	20	21.3	106	80-120	
Chloroethane	ug/L	20	17.6	88	56-159	
Chloroform	ug/L	20	20.0	100	76-120	
Chloromethane	ug/L	20	11.9	59	40-148	
cis-1,2-Dichloroethene	ug/L	20	19.8	99	69-120	
cis-1,3-Dichloropropene	ug/L	20	18.8	94	76-120	
Dibromochloromethane	ug/L	20	21.8	109	79-121	
Dibromomethane	ug/L	20	19.6	98	77-120	
Dichlorodifluoromethane	ug/L	20	11.4	57	40-141	
Ethylbenzene	ug/L	20	21.2	106	76-123	
Hexachloro-1,3-butadiene	ug/L	20	20.3	101	69-125	
Isopropylbenzene (Cumene)	ug/L	20	23.0	115	80-130	
Methyl-tert-butyl ether	ug/L	20	18.7	94	67-128	
Methylene chloride	ug/L	20	19.8	99	71-123	
n-Butylbenzene	ug/L	20	19.4	97	77-124	
n-Propylbenzene	ug/L	20	20.2	101	78-120	
Naphthalene	ug/L	20	17.3	86	64-127	
p-Isopropyltoluene	ug/L	20	20.9	104	78-120	
sec-Butylbenzene	ug/L	20	20.0	100	77-122	
Styrene	ug/L	20	20.6	103	79-120	
tert-Butylbenzene	ug/L	20	19.8	99	76-123	
Tetrachloroethene	ug/L	20	22.3	112	79-122	
Toluene	ug/L	20	19.9	100	76-122	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	78-126	
trans-1,3-Dichloropropene	ug/L	20	20.8	104	79-124	
Trichloroethene	ug/L	20	19.3	96	76-120	
Trichlorofluoromethane	ug/L	20	18.6	93	69-133	
Vinyl chloride	ug/L	20	15.2	76	57-140	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

LABORATORY CONTROL SAMPLE: 1261939

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	64.0	107	76-122	
1,2-Dichloroethane-d4 (S)	%			97	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

QC Batch:	WET/43738	Analysis Method:	SM 2540B
QC Batch Method:	SM 2540B	Analysis Description:	2540B Total Solids
Associated Lab Samples:	60154060001		

METHOD BLANK:	1263582	Matrix:	Water
Associated Lab Samples:	60154060001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	10/01/13 16:58	

LABORATORY CONTROL SAMPLE: 1263583

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	1000	100	80-120	

SAMPLE DUPLICATE: 1263751

Parameter	Units	60153840001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	17700	18000	2	10	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

BATCH QUALIFIERS

Batch: MSV/56616

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

ANALYTE QUALIFIERS

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154060

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154060001	TCLP W/O 9/23/13	EPA 8260	MSV/56698		
60154060001	TCLP W/O 9/23/13	EPA 8260	MSV/56799		
60154060001	TCLP W/O 9/23/13	EPA 5030B/8260	MSV/56616		
60154060001	TCLP W/O 9/23/13	SM 2540B	WET/43738		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60154060



60154060

Client Name: BARR

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 ☒ 2 up

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

Date and initials of person examining contents: 8/2/20

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.
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>8/2/20 WT</u>		15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		<u>59 6 UOA</u>
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	18.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	19. List State:

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N ☐ Field Data Required? Y ☒ N ☐

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/2/20

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154439002	TRIP BLANK			

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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch: MERP/7770

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch: MERP/7783

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24565 Analysis Method: EPA 200.7
QC Batch 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	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	101000 0	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

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24614 Analysis Method: EPA 200.7
QC Batch 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	

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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch: MSV/56776 Analysis Method: EPA 624 Low

QC Batch 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	Analysis Method:	EPA 625
QC Batch 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	

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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	Analysis Method:	EPA 1664A
QC Batch 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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch: WET/43763 Analysis Method: SM 4500-H+B

QC Batch 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

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch: WETA/26515

Analysis Method: EPA 350.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-091

Pace Project No.: 60154439

QC Batch:	WETA/26451	Analysis Method:	EPA 410.4
QC Batch 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.

REPORT OF LABORATORY ANALYSIS

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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 ☒ Zip

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: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 10/2

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

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

14.

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.

595 VOA for 316-091
leachate -> ADD HS
footnote

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: 10/3/13

October 09, 2013

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

RE: Project: WEEKLY UNTREATED COMMINGLED
Pace Project No.: 60154477

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

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: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60154477001	TCLP W/O 9-30-13	Water	10/01/13 12:13	10/02/13 02:00

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60154477001	TCLP W/O 9-30-13	EPA 8260	RAB	13
		EPA 5030B/8260	PRG	69
		SM 2540B	RAH	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

Sample: TCLP W/O 9-30-13 Lab ID: 60154477001 Collected: 10/01/13 12:13 Received: 10/02/13 02:00 Matrix: Water									
Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 10/05/13 00:00									
Benzene	464	ug/L	250	500	5		10/07/13 08:17	71-43-2	
2-Butanone (MEK)	54400	ug/L	5000	200000	5		10/07/13 08:17	78-93-3	
Carbon tetrachloride	ND	ug/L	250	500	5		10/07/13 08:17	56-23-5	
Chlorobenzene	ND	ug/L	250	100000	5		10/07/13 08:17	108-90-7	
Chloroform	ND	ug/L	1000	6000	5		10/07/13 08:17	67-66-3	
1,2-Dichloroethane	ND	ug/L	250	500	5		10/07/13 08:17	107-06-2	
1,1-Dichloroethene	ND	ug/L	250	700	5		10/07/13 08:17	75-35-4	
Tetrachloroethene	ND	ug/L	250	700	5		10/07/13 08:17	127-18-4	
Trichloroethene	ND	ug/L	250	500	5		10/07/13 08:17	79-01-6	
Vinyl chloride	ND	ug/L	500	200	5		10/07/13 08:17	75-01-4	
Surrogates									
1,2-Dichloroethane-d4 (S)	100 %		80-120		5		10/07/13 08:17	17060-07-0	
Toluene-d8 (S)	101 %		80-120		5		10/07/13 08:17	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120		5		10/07/13 08:17	460-00-4	
8260 MSV Analytical Method: EPA 5030B/8260									
Acetone	154000	ug/L	5000		500		10/09/13 14:46	67-64-1	
Benzene	879	ug/L	500		500		10/09/13 14:46	71-43-2	
Bromobenzene	ND	ug/L	500		500		10/09/13 14:46	108-86-1	
Bromochloromethane	ND	ug/L	500		500		10/09/13 14:46	74-97-5	
Bromodichloromethane	ND	ug/L	500		500		10/09/13 14:46	75-27-4	
Bromoform	ND	ug/L	500		500		10/09/13 14:46	75-25-2	
Bromomethane	ND	ug/L	2500		500		10/09/13 14:46	74-83-9	
2-Butanone (MEK)	83200	ug/L	5000		500		10/09/13 14:46	78-93-3	
n-Butylbenzene	ND	ug/L	500		500		10/09/13 14:46	104-51-8	
sec-Butylbenzene	ND	ug/L	500		500		10/09/13 14:46	135-98-8	
tert-Butylbenzene	ND	ug/L	500		500		10/09/13 14:46	98-06-6	
Carbon disulfide	ND	ug/L	2500		500		10/09/13 14:46	75-15-0	
Carbon tetrachloride	ND	ug/L	500		500		10/09/13 14:46	56-23-5	
Chlorobenzene	ND	ug/L	500		500		10/09/13 14:46	108-90-7	
Chloroethane	ND	ug/L	500		500		10/09/13 14:46	75-00-3	
Chloroform	ND	ug/L	500		500		10/09/13 14:46	67-66-3	
Chloromethane	ND	ug/L	500		500		10/09/13 14:46	74-87-3	
2-Chlorotoluene	ND	ug/L	500		500		10/09/13 14:46	95-49-8	
4-Chlorotoluene	ND	ug/L	500		500		10/09/13 14:46	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	1250		500		10/09/13 14:46	96-12-8	
Dibromochloromethane	ND	ug/L	500		500		10/09/13 14:46	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	500		500		10/09/13 14:46	106-93-4	
Dibromomethane	ND	ug/L	500		500		10/09/13 14:46	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	500		500		10/09/13 14:46	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	500		500		10/09/13 14:46	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	500		500		10/09/13 14:46	106-46-7	
Dichlorodifluoromethane	ND	ug/L	500		500		10/09/13 14:46	75-71-8	
1,1-Dichloroethane	ND	ug/L	500		500		10/09/13 14:46	75-34-3	
1,2-Dichloroethane	ND	ug/L	500		500		10/09/13 14:46	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	500		500		10/09/13 14:46	540-59-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

Sample: TCLP W/O 9-30-13 **Lab ID:** 60154477001 **Collected:** 10/01/13 12:13 **Received:** 10/02/13 02:00 **Matrix:** Water

Parameters	Results	Units	Report Limit	Reg. Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Analytical Method: EPA 5030B/8260									
1,1-Dichloroethene	ND	ug/L	500		500		10/09/13 14:46	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	500		500		10/09/13 14:46	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	500		500		10/09/13 14:46	156-60-5	
1,2-Dichloropropane	ND	ug/L	500		500		10/09/13 14:46	78-87-5	
1,3-Dichloropropane	ND	ug/L	500		500		10/09/13 14:46	142-28-9	
2,2-Dichloropropane	ND	ug/L	500		500		10/09/13 14:46	594-20-7	
1,1-Dichloropropene	ND	ug/L	500		500		10/09/13 14:46	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	500		500		10/09/13 14:46	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	500		500		10/09/13 14:46	10061-02-6	
Ethylbenzene	ND	ug/L	500		500		10/09/13 14:46	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	500		500		10/09/13 14:46	87-68-3	
2-Hexanone	ND	ug/L	5000		500		10/09/13 14:46	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	500		500		10/09/13 14:46	98-82-8	
p-Isopropyltoluene	ND	ug/L	500		500		10/09/13 14:46	99-87-6	
Methylene chloride	ND	ug/L	500		500		10/09/13 14:46	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5000		500		10/09/13 14:46	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	500		500		10/09/13 14:46	1634-04-4	
Naphthalene	ND	ug/L	5000		500		10/09/13 14:46	91-20-3	
n-Propylbenzene	ND	ug/L	500		500		10/09/13 14:46	103-65-1	
Styrene	ND	ug/L	500		500		10/09/13 14:46	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	500		500		10/09/13 14:46	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	500		500		10/09/13 14:46	79-34-5	
Tetrachloroethene	ND	ug/L	500		500		10/09/13 14:46	127-18-4	
Toluene	ND	ug/L	500		500		10/09/13 14:46	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	500		500		10/09/13 14:46	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	500		500		10/09/13 14:46	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	500		500		10/09/13 14:46	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	500		500		10/09/13 14:46	79-00-5	
Trichloroethene	ND	ug/L	500		500		10/09/13 14:46	79-01-6	
Trichlorofluoromethane	ND	ug/L	500		500		10/09/13 14:46	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1250		500		10/09/13 14:46	96-18-4	
1,2,4-Trimethylbenzene	ND	ug/L	500		500		10/09/13 14:46	95-63-6	
1,3,5-Trimethylbenzene	ND	ug/L	500		500		10/09/13 14:46	108-67-8	
Vinyl chloride	ND	ug/L	500		500		10/09/13 14:46	75-01-4	
Xylene (Total)	ND	ug/L	1500		500		10/09/13 14:46	1330-20-7	
Surrogates									
4-Bromofluorobenzene (S)	102 %		80-120		500		10/09/13 14:46	460-00-4	HS
1,2-Dichloroethane-d4 (S)	93 %		80-120		500		10/09/13 14:46	17060-07-0	
Toluene-d8 (S)	95 %		80-120		500		10/09/13 14:46	2037-26-5	
Preservation pH	6.0		0.10		500		10/09/13 14:46		pH

2540B Total Solids

Analytical Method: SM 2540B

Total Solids	6450 mg/L	5.0	1	10/08/13 16:44
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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

QC Batch: MSV/56812

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 60154477001

METHOD BLANK: 1266879

Matrix: Water

Associated Lab Samples: 60154477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	10/07/13 06:15	
1,2-Dichloroethane	ug/L	ND	50.0	10/07/13 06:15	
2-Butanone (MEK)	ug/L	ND	1000	10/07/13 06:15	
Benzene	ug/L	ND	50.0	10/07/13 06:15	
Carbon tetrachloride	ug/L	ND	50.0	10/07/13 06:15	
Chlorobenzene	ug/L	ND	50.0	10/07/13 06:15	
Chloroform	ug/L	ND	200	10/07/13 06:15	
Tetrachloroethene	ug/L	ND	50.0	10/07/13 06:15	
Trichloroethene	ug/L	ND	50.0	10/07/13 06:15	
Vinyl chloride	ug/L	ND	100	10/07/13 06:15	
1,2-Dichloroethane-d4 (S)	%	94	80-120	10/07/13 06:15	
4-Bromofluorobenzene (S)	%	98	80-120	10/07/13 06:15	
Toluene-d8 (S)	%	101	80-120	10/07/13 06:15	

LABORATORY CONTROL SAMPLE: 1266880

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1000	100	70-127	
1,2-Dichloroethane	ug/L	1000	996	100	72-122	
2-Butanone (MEK)	ug/L	5000	4080	82	69-124	
Benzene	ug/L	1000	899	90	73-122	
Carbon tetrachloride	ug/L	1000	1020	102	73-125	
Chlorobenzene	ug/L	1000	978	98	80-120	
Chloroform	ug/L	1000	988	99	76-120	
Tetrachloroethene	ug/L	1000	948	95	79-122	
Trichloroethene	ug/L	1000	941	94	76-120	
Vinyl chloride	ug/L	1000	940	94	57-140	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			101	80-120	

MATRIX SPIKE SAMPLE: 1266881

Parameter	Units	60153834001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	1000	826	83	66-142	
1,2-Dichloroethane	ug/L	ND	1000	903	90	53-144	
2-Butanone (MEK)	ug/L	ND	5000	3650	73	54-127	
Benzene	ug/L	ND	1000	827	83	48-150	
Carbon tetrachloride	ug/L	ND	1000	923	92	68-145	
Chlorobenzene	ug/L	ND	1000	870	87	68-131	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

MATRIX SPIKE SAMPLE:		1266881					
Parameter	Units	60153834001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	1000	904	90	69-126	
Tetrachloroethene	ug/L	ND	1000	850	85	66-139	
Trichloroethene	ug/L	ND	1000	824	82	67-130	
Vinyl chloride	ug/L	ND	1000	599	60	47-159	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	
Toluene-d8 (S)	%				102	80-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

QC Batch: MSV/56876

Analysis Method: EPA 5030B/8260

QC Batch Method: EPA 5030B/8260

Analysis Description: 8260 MSV Water 10 mL Purge

Associated Lab Samples: 60154477001

METHOD BLANK: 1268391

Matrix: Water

Associated Lab Samples: 60154477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,1-Dichloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,1-Dichloroethene	ug/L	ND	1.0	10/09/13 10:03	
1,1-Dichloropropene	ug/L	ND	1.0	10/09/13 10:03	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
1,2,3-Trichloropropane	ug/L	ND	2.5	10/09/13 10:03	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	10/09/13 10:03	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.5	10/09/13 10:03	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/09/13 10:03	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
1,2-Dichloroethane	ug/L	ND	1.0	10/09/13 10:03	
1,2-Dichloroethene (Total)	ug/L	ND	1.0	10/09/13 10:03	
1,2-Dichloropropane	ug/L	ND	1.0	10/09/13 10:03	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	10/09/13 10:03	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
1,3-Dichloropropane	ug/L	ND	1.0	10/09/13 10:03	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
2,2-Dichloropropane	ug/L	ND	1.0	10/09/13 10:03	
2-Butanone (MEK)	ug/L	ND	10.0	10/09/13 10:03	
2-Chlorotoluene	ug/L	ND	1.0	10/09/13 10:03	
2-Hexanone	ug/L	ND	10.0	10/09/13 10:03	
4-Chlorotoluene	ug/L	ND	1.0	10/09/13 10:03	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	10/09/13 10:03	
Acetone	ug/L	ND	10.0	10/09/13 10:03	
Benzene	ug/L	ND	1.0	10/09/13 10:03	
Bromobenzene	ug/L	ND	1.0	10/09/13 10:03	
Bromochloromethane	ug/L	ND	1.0	10/09/13 10:03	
Bromodichloromethane	ug/L	ND	1.0	10/09/13 10:03	
Bromoform	ug/L	ND	1.0	10/09/13 10:03	
Bromomethane	ug/L	ND	5.0	10/09/13 10:03	
Carbon disulfide	ug/L	ND	5.0	10/09/13 10:03	
Carbon tetrachloride	ug/L	ND	1.0	10/09/13 10:03	
Chlorobenzene	ug/L	ND	1.0	10/09/13 10:03	
Chloroethane	ug/L	ND	1.0	10/09/13 10:03	
Chloroform	ug/L	ND	1.0	10/09/13 10:03	
Chloromethane	ug/L	ND	1.0	10/09/13 10:03	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/09/13 10:03	
cis-1,3-Dichloropropene	ug/L	ND	1.0	10/09/13 10:03	
Dibromochloromethane	ug/L	ND	1.0	10/09/13 10:03	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

METHOD BLANK: 1268391

Matrix: Water

Associated Lab Samples: 60154477001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Dibromomethane	ug/L	ND	1.0	10/09/13 10:03	
Dichlorodifluoromethane	ug/L	ND	1.0	10/09/13 10:03	
Ethylbenzene	ug/L	ND	1.0	10/09/13 10:03	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	10/09/13 10:03	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	10/09/13 10:03	
Methyl-tert-butyl ether	ug/L	ND	1.0	10/09/13 10:03	
Methylene chloride	ug/L	ND	1.0	10/09/13 10:03	
n-Butylbenzene	ug/L	ND	1.0	10/09/13 10:03	
n-Propylbenzene	ug/L	ND	1.0	10/09/13 10:03	
Naphthalene	ug/L	ND	10.0	10/09/13 10:03	
p-Isopropyltoluene	ug/L	ND	1.0	10/09/13 10:03	
sec-Butylbenzene	ug/L	ND	1.0	10/09/13 10:03	
Styrene	ug/L	ND	1.0	10/09/13 10:03	
tert-Butylbenzene	ug/L	ND	1.0	10/09/13 10:03	
Tetrachloroethene	ug/L	ND	1.0	10/09/13 10:03	
Toluene	ug/L	ND	1.0	10/09/13 10:03	
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/09/13 10:03	
trans-1,3-Dichloropropene	ug/L	ND	1.0	10/09/13 10:03	
Trichloroethene	ug/L	ND	1.0	10/09/13 10:03	
Trichlorofluoromethane	ug/L	ND	1.0	10/09/13 10:03	
Vinyl chloride	ug/L	ND	1.0	10/09/13 10:03	
Xylene (Total)	ug/L	ND	3.0	10/09/13 10:03	
1,2-Dichloroethane-d4 (S)	%	90	80-120	10/09/13 10:03	
4-Bromofluorobenzene (S)	%	97	80-120	10/09/13 10:03	
Toluene-d8 (S)	%	99	80-120	10/09/13 10:03	

LABORATORY CONTROL SAMPLE: 1268392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.7	109	79-121	
1,1,1-Trichloroethane	ug/L	20	20.3	102	75-124	
1,1,2,2-Tetrachloroethane	ug/L	20	20.2	101	73-120	
1,1,2-Trichloroethane	ug/L	20	22.9	114	76-120	
1,1-Dichloroethane	ug/L	20	20.2	101	73-120	
1,1-Dichloroethene	ug/L	20	22.4	112	70-127	
1,1-Dichloropropene	ug/L	20	22.6	113	79-124	
1,2,3-Trichlorobenzene	ug/L	20	21.6	108	68-130	
1,2,3-Trichloropropane	ug/L	20	19.2	96	72-124	
1,2,4-Trichlorobenzene	ug/L	20	21.2	106	73-125	
1,2,4-Trimethylbenzene	ug/L	20	20.9	104	76-120	
1,2-Dibromo-3-chloropropane	ug/L	20	20.2	101	68-126	
1,2-Dibromoethane (EDB)	ug/L	20	22.6	113	79-121	
1,2-Dichlorobenzene	ug/L	20	20.8	104	79-120	
1,2-Dichloroethane	ug/L	20	20.8	104	72-122	
1,2-Dichloroethene (Total)	ug/L	40	43.8	110	77-120	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

LABORATORY CONTROL SAMPLE: 1268392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloropropane	ug/L	20	22.9	114	77-120	
1,3,5-Trimethylbenzene	ug/L	20	20.2	101	75-120	
1,3-Dichlorobenzene	ug/L	20	20.4	102	80-120	
1,3-Dichloropropane	ug/L	20	21.3	107	76-120	
1,4-Dichlorobenzene	ug/L	20	20.6	103	80-120	
2,2-Dichloropropane	ug/L	20	16.7	84	52-135	
2-Butanone (MEK)	ug/L	100	96.4	96	69-124	
2-Chlorotoluene	ug/L	20	20.2	101	78-120	
2-Hexanone	ug/L	100	100	100	70-125	
4-Chlorotoluene	ug/L	20	20.4	102	80-120	
4-Methyl-2-pentanone (MIBK)	ug/L	100	109	109	72-123	
Acetone	ug/L	100	88.0	88	60-126	
Benzene	ug/L	20	22.4	112	73-122	
Bromobenzene	ug/L	20	19.9	99	79-120	
Bromochloromethane	ug/L	20	20.2	101	76-125	
Bromodichloromethane	ug/L	20	20.7	104	73-120	
Bromoform	ug/L	20	21.9	109	74-120	
Bromomethane	ug/L	20	18.4	92	40-146	
Carbon disulfide	ug/L	20	18.6	93	62-125	
Carbon tetrachloride	ug/L	20	21.0	105	73-125	
Chlorobenzene	ug/L	20	22.2	111	80-120	
Chloroethane	ug/L	20	18.0	90	56-159	
Chloroform	ug/L	20	22.0	110	76-120	
Chloromethane	ug/L	20	10.3	52	40-148	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	69-120	
cis-1,3-Dichloropropene	ug/L	20	22.5	112	76-120	
Dibromochloromethane	ug/L	20	22.2	111	79-121	
Dibromomethane	ug/L	20	20.3	101	77-120	
Dichlorodifluoromethane	ug/L	20	12.6	63	40-141	
Ethylbenzene	ug/L	20	21.8	109	76-123	
Hexachloro-1,3-butadiene	ug/L	20	19.4	97	69-125	
Isopropylbenzene (Cumene)	ug/L	20	23.8	119	80-130	
Methyl-tert-butyl ether	ug/L	20	20.0	100	67-128	
Methylene chloride	ug/L	20	22.3	112	71-123	
n-Butylbenzene	ug/L	20	20.2	101	77-124	
n-Propylbenzene	ug/L	20	20.3	101	78-120	
Naphthalene	ug/L	20	21.6	108	64-127	
p-Isopropyltoluene	ug/L	20	20.6	103	78-120	
sec-Butylbenzene	ug/L	20	20.7	104	77-122	
Styrene	ug/L	20	21.3	107	79-120	
tert-Butylbenzene	ug/L	20	20.2	101	76-123	
Tetrachloroethene	ug/L	20	21.5	108	79-122	
Toluene	ug/L	20	22.3	111	76-122	
trans-1,2-Dichloroethene	ug/L	20	22.8	114	78-126	
trans-1,3-Dichloropropene	ug/L	20	23.7	119	79-124	
Trichloroethene	ug/L	20	20.4	102	76-120	
Trichlorofluoromethane	ug/L	20	17.6	88	69-133	
Vinyl chloride	ug/L	20	16.8	84	57-140	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

LABORATORY CONTROL SAMPLE: 1268392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	66.5	111	76-122	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			99	80-120	
Toluene-d8 (S)	%			99	80-120	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

QC Batch:	WET/43860	Analysis Method:	SM 2540B
QC Batch Method:	SM 2540B	Analysis Description:	2540B Total Solids
Associated Lab Samples:	60154477001		

METHOD BLANK:	1267490	Matrix:	Water
Associated Lab Samples:	60154477001		

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	10/08/13 16:43	

LABORATORY CONTROL SAMPLE: 1268038

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	993	99	80-120	

SAMPLE DUPLICATE: 1267582

Parameter	Units	60154344001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	1640	1520	8	10	

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QUALIFIERS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60154477001

[1] The samples were received with headspace. Analysis was completed upon client approval.

BATCH QUALIFIERS

Batch: MSV/56876

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

ANALYTE QUALIFIERS

HS Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).

pH Post-analysis pH measurement indicates insufficient VOA sample preservation.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60154477

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60154477001	TCLP W/O 9-30-13	EPA 8260	MSV/56812		
60154477001	TCLP W/O 9-30-13	EPA 5030B/8260	MSV/56876		
60154477001	TCLP W/O 9-30-13	SM 2540B	WET/43860		

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Sample Condition Upon Receipt

WO#: 60154477



Client Name: BARR

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 ☒ 2up

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

Cooler Temperature: 1.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/10/12

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☐ No ☒ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	
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

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 10/31/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154559002	TRIP BLANK			

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
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

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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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092

Pace Project No.: 60154559

QC Batch: MERP/7770

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24565 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
Antimony	ug/L	46.4	1000	1000	1000	850	801	80	75	70-130	6
Arsenic	ug/L	725	1000	1000	1000	1880	1860	115	114	70-130	1
Beryllium	ug/L	ND	1000	1000	1000	972	950	97	95	70-130	2
Cadmium	ug/L	16.7	1000	1000	1000	1100	1070	108	105	70-130	3
Chromium	ug/L	318	1000	1000	1000	1280	1280	97	96	70-130	0
Cobalt	ug/L	52.2	1000	1000	1000	971	946	92	89	70-130	3
Copper	ug/L	ND	1000	1000	1000	1040	1000	103	100	70-130	3
Iron	ug/L	101000 0	10000	10000	10000	1010000	1020000	-30	70	70-130	1
Lead	ug/L	203	1000	1000	1000	1040	1020	84	82	70-130	2
Nickel	ug/L	120	1000	1000	1000	1050	1020	93	90	70-130	3
Selenium	ug/L	ND	1000	1000	1000	1050	1050	104	104	70-130	0
Silver	ug/L	ND	500	500	500	42.2	28.1	8	5	70-130	40
Thallium	ug/L	ND	1000	1000	1000	796	771	80	77	70-130	3
Zinc	ug/L	15000	1000	1000	1000	15700	15900	78	91	70-130	1

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24614 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	56.8	1000	1000	1000	1010	1020	95	96	70-130	1
Arsenic, Dissolved	ug/L	718	1000	1000	1000	1720	1750	100	103	70-130	1
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	950	946	95	95	70-130	0
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1010	1030	101	103	70-130	2
Chromium, Dissolved	ug/L	286	1000	1000	1000	1210	1230	93	94	70-130	1
Cobalt, Dissolved	ug/L	39.8	1000	1000	1000	968	984	93	94	70-130	2
Copper, Dissolved	ug/L	ND	1000	1000	1000	987	997	99	100	70-130	1
Iron, Dissolved	ug/L	638000	10000	10000	10000	620000	615000	-178	-226	70-130	1
Lead, Dissolved	ug/L	68.2	1000	1000	1000	938	952	87	88	70-130	2
Nickel, Dissolved	ug/L	108	1000	1000	1000	1040	1060	94	95	70-130	1
Selenium, Dissolved	ug/L	ND	1000	1000	1000	1090	1120	109	112	70-130	3
Silver, Dissolved	ug/L	ND	500	500	500	45.1	54.6	9	11	70-130	19
Thallium, Dissolved	ug/L	ND	1000	1000	1000	788	814	79	81	70-130	3
Zinc, Dissolved	ug/L	13100	1000	1000	1000	13700	13700	63	58	70-130	0

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092

Pace Project No.: 60154559

QC Batch: MSV/56776 Analysis Method: EPA 624 Low

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092

Pace Project No.: 60154559

QC Batch: OEXT/40825

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 1664A

QC Batch 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

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092

Pace Project No.: 60154559

QC Batch: WET/43786 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-092

Pace Project No.: 60154559

QC Batch: WETA/26515

Analysis Method: EPA 350.1

QC Batch 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	

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QUALITY CONTROL DATA

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

QC Batch: WETA/26543 Analysis Method: EPA 410.4
QC Batch 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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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WO#: 60154559



60154559



Sample Condition Upon Receipt

Client Name: BARRCourier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ XLTracking #: _____ 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 ☒ 2uplThermometer Used: T-112 / T-194Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)Cooler Temperature: 4.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/10/13

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. <u>pH, BOD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WT</u>		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>Sep 20</u>		20.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N ☐ Field Data Required? Y ☒ N ☐

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154684002	TRIP BLANK			

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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	101000	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	

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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		

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093

Pace Project No.: 60154684

QC Batch: MERP/7780

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093

Pace Project No.: 60154684

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24565 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	101000 0	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

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24677 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	51.3	1000	1000	1000	1030	995	98	94	70-130	3
Arsenic, Dissolved	ug/L	716	1000	1000	1000	1580	1560	87	84	70-130	2
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	890	856	89	86	70-130	4
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1050	998	105	100	70-130	5
Chromium, Dissolved	ug/L	237	1000	1000	1000	1080	1050	85	82	70-130	3
Cobalt, Dissolved	ug/L	40.3	1000	1000	1000	996	946	96	91	70-130	5
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	971	100	97	70-130	3
Iron, Dissolved	ug/L	362000	10000	10000	10000	399000	376000	376	140	70-130	6
Lead, Dissolved	ug/L	59.0	1000	1000	1000	740	752	68	69	70-130	2
Nickel, Dissolved	ug/L	102	1000	1000	1000	1040	1000	94	90	70-130	4
Selenium, Dissolved	ug/L	ND	1000	1000	1000	922	928	92	92	70-130	1
Silver, Dissolved	ug/L	ND	500	500	500	57.7	60.0	10	10	70-130	4
Thallium, Dissolved	ug/L	ND	1000	1000	1000	766	728	77	73	70-130	5
Zinc, Dissolved	ug/L	11800	1000	1000	1000	12800	12600	101	80	70-130	2

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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093

Pace Project No.: 60154684

QC Batch:	WET/43868	Analysis Method:	SM 4500-H+B
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093

Pace Project No.: 60154684

QC Batch: WET/43809

Analysis Method: SM 5210B

QC Batch 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	

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-093

Pace Project No.: 60154684

QC Batch:	WETA/26543	Analysis Method:	EPA 410.4
QC Batch 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	

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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.

REPORT OF LABORATORY ANALYSIS

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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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WO#: 60154684



Sample Condition Upon Receipt

Client Name: Barr

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☒ Foam ☒ None ☐ Other ☒ 2 p/c

Thermometer Used: T-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: pv 10/4/13

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. <u>BOD PH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WT</u>		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		20.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

collected @ 0820
Added 2.5 ml of HNO3 to BP3. PH 6.0/4.0
Added 2.0 ml of H2SO4 to BP15. PH 6.0/2.0
Initial when completed pv Lot # of added preservative 12510
12516

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: 10/7/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

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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

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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
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		

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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

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094

Pace Project No.: 60154802

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

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

QC Batch:	MPRP/24606	Analysis Method:	EPA 200.7
QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	

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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094

Pace Project No.: 60154802

QC Batch: MSV/56841 Analysis Method: EPA 624 Low

QC Batch 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			

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094

Pace Project No.: 60154802

QC Batch: WET/43921

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-094

Pace Project No.: 60154802

QC Batch: WET/43869 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: SM 5210B

QC Batch 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

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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	

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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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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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WO#: 60154802



60154802



Sample Condition Upon Receipt

Client Name: Barr Eng.

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 ☐ 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 RD

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. <u>Bio</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>UT</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, <u>O&G</u> , WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		20.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

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: 10/7/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154861002	TRIP BLANK			

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095

Pace Project No.: 60154861

QC Batch: MERP/7780

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095

Pace Project No.: 60154861

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24659 Analysis Method: EPA 200.7
QC Batch 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	

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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	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 316-095
Pace Project No.: 60154861

QC Batch: MPRP/24677 Analysis Method: EPA 200.7
QC Batch 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	

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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095

Pace Project No.: 60154861

QC Batch: MSV/56841 Analysis Method: EPA 624 Low

QC Batch 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	

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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	

REPORT OF LABORATORY ANALYSIS

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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	

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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 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: EPA 350.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-095

Pace Project No.: 60154861

QC Batch:	WETA/26543	Analysis Method:	EPA 410.4
QC Batch 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	

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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.

REPORT OF LABORATORY ANALYSIS

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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

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Sample Condition Upon Receipt

WO#: 60154861



60154861

Client Name: Barr

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 10/2/13

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. <u>Bad</u>
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: <u>WT</u>		13.
All containers needing preservation have been checked:	☒ Yes ☐ No ☐ N/A	<u>HNO3 volume initial pH ~6.0; added 2.5 mL HNO3; final ~5.0</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>H2SO4 volume initial pH ~6.0; added 2 mL H2SO4; final ~3.0</u>
Exceptions: VOA, coliform, TOC, <u>2&G</u> , WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>hw</u> Lot # of added preservative <u>12570-4-4</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>SEP 30</u>		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: [Signature]

Date: 10/2/13

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

Section A		Section B		Section C		Page : 1 Of 1	
Required Client Information:		Required Project Information:		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	

[illegible]

SAMPLER NAME AND SIGNATURE PRINT Name of SAMPLER: <i>William Abernathy</i> SIGNATURE of SAMPLER: <i>William Abernathy</i>		TEMP in C Received on Ice (Y/N) Custody Sealed Cooler (Y/N) Samples Intact (Y/N)
DATE Signed: <i>10/6/13</i>		

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

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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

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154867002	TRIP BLANK			

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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

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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
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		

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096

Pace Project No.: 60154867

QC Batch: MERP/7808

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096

Pace Project No.: 60154867

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

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

QC Batch: MPRP/24659 Analysis Method: EPA 200.7
QC Batch 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	

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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	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 Analysis Method: EPA 200.7
QC Batch 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	

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: 1269616 1269617											
Parameter	Units	60155023001		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	51.3	1000	1000	1000	1030	995	98	94	70-130	3
Arsenic, Dissolved	ug/L	716	1000	1000	1000	1580	1560	87	84	70-130	2
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	890	856	89	86	70-130	4
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1050	998	105	100	70-130	5
Chromium, Dissolved	ug/L	237	1000	1000	1000	1080	1050	85	82	70-130	3
Cobalt, Dissolved	ug/L	40.3	1000	1000	1000	996	946	96	91	70-130	5
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	971	100	97	70-130	3
Iron, Dissolved	ug/L	362000	10000	10000	10000	399000	376000	376	140	70-130	6
Lead, Dissolved	ug/L	59.0	1000	1000	1000	740	752	68	69	70-130	2
Nickel, Dissolved	ug/L	102	1000	1000	1000	1040	1000	94	90	70-130	4
Selenium, Dissolved	ug/L	ND	1000	1000	1000	922	928	92	92	70-130	1
Silver, Dissolved	ug/L	ND	500	500	500	57.7	60.0	10	10	70-130	4
Thallium, Dissolved	ug/L	ND	1000	1000	1000	766	728	77	73	70-130	5
Zinc, Dissolved	ug/L	11800	1000	1000	1000	12800	12600	101	80	70-130	2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096

Pace Project No.: 60154867

QC Batch: MSV/56841 Analysis Method: EPA 624 Low

QC Batch 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

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QUALITY CONTROL DATA

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

QC Batch:	OEXT/40915	Analysis Method:	EPA 625
QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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

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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	

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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	Analysis Method:	SM 4500-H+B
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-096

Pace Project No.: 60154867

QC Batch: WET/43848

Analysis Method: SM 5210B

QC Batch 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

Analysis Method: EPA 350.1

QC Batch 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 Analysis Method: EPA 410.4
QC Batch 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	

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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		

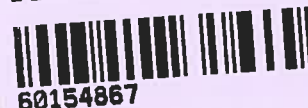
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Sample Condition Upon Receipt

WO#: 60154867



Client Name: BARR

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 ☒ 2upl

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. <u>PH, BOD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix:	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>S</u> Lot # of added preservative <u>12520</u> <u>12510</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	18.
Pace Trip Blank lot # (if purchased) <u>Sep 30</u>		19.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	20.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	21. 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

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

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60154868002	TRIP BLANK			

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
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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097

Pace Project No.: 60154868

QC Batch: MERP/7808

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097

Pace Project No.: 60154868

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	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 316-097
Pace Project No.: 60154868

QC Batch: MPRP/24677 Analysis Method: EPA 200.7
QC Batch 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	

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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097

Pace Project No.: 60154868

QC Batch: MSV/56841 Analysis Method: EPA 624 Low

QC Batch 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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097
Pace Project No.: 60154868

QC Batch: OEXT/40915 Analysis Method: EPA 625
QC Batch 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	Analysis Method:	EPA 1664A
QC Batch 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	

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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 Analysis Method: SM 4500-H+B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-097

Pace Project No.: 60154868

QC Batch: WETA/26550

Analysis Method: EPA 350.1

QC Batch 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	

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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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60154868



60154868

Client Name: Bare

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 ☒ 2upl

Thermometer Used: I-112/ T-194

Type of Ice: Wet Blue - None ☒ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 8.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 2/10/17

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. <u>BOD, PH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WT</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>Add MnO3 to 316-097 BP30 S.O/2.5</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>Add NaSO4 to 316-097 BP35 S.O/2.5</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>S</u> Lot # of added preservative <u>12510 12520</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): <u>Sep 20</u>		
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: _____

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

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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
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

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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		

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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		

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098

Pace Project No.: 60155023

QC Batch:	MERP/7811	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098
Pace Project No.: 60155023

QC Batch: MPRP/24659 Analysis Method: EPA 200.7
QC Batch 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	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 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	51.3	1000	1000	1000	1030	995	98	94	70-130	3
Arsenic, Dissolved	ug/L	716	1000	1000	1000	1580	1560	87	84	70-130	2
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	890	856	89	86	70-130	4
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1050	998	105	100	70-130	5
Chromium, Dissolved	ug/L	237	1000	1000	1000	1080	1050	85	82	70-130	3
Cobalt, Dissolved	ug/L	40.3	1000	1000	1000	996	946	96	91	70-130	5
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	971	100	97	70-130	3
Iron, Dissolved	ug/L	362000	10000	10000	10000	399000	376000	376	140	70-130	6
Lead, Dissolved	ug/L	59.0	1000	1000	1000	740	752	68	69	70-130	2
Nickel, Dissolved	ug/L	102	1000	1000	1000	1040	1000	94	90	70-130	4
Selenium, Dissolved	ug/L	ND	1000	1000	1000	922	928	92	92	70-130	1
Silver, Dissolved	ug/L	ND	500	500	500	57.7	60.0	10	10	70-130	4
Thallium, Dissolved	ug/L	ND	1000	1000	1000	766	728	77	73	70-130	5
Zinc, Dissolved	ug/L	11800	1000	1000	1000	12800	12600	101	80	70-130	2

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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

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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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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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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

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-098

Pace Project No.: 60155023

QC Batch: WET/43966 Analysis Method: SM 4500-H+B

QC Batch 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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155023



60155023

Client Name: BARR

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

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. <u>PH, BOD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WA</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	Add HNO3 to 316-098 BP30 5.0/35
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	Add #2504 to 316-098 BP35 5.0/25
Exceptions (VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics) <u>VOA</u>	☒ Yes ☐ No	Initial when completed <u>S</u> Lot # of added preservative <u>12510</u> <u>12520</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): <u>Sup 30</u>		
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: _____

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155141002	TRIP BLANK			

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
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

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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

Analysis Method: EPA 200.7

QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony	ug/L	74.7	1000	1000	1000	846	865	77	79	70-130	2
Arsenic	ug/L	857	1000	1000	1000	1910	1970	105	111	70-130	3
Beryllium	ug/L	ND	1000	1000	1000	913	919	91	92	70-130	1
Cadmium	ug/L	ND	1000	1000	1000	999	1020	100	102	70-130	2
Chromium	ug/L	319	1000	1000	1000	1260	1240	94	93	70-130	1
Cobalt	ug/L	54.2	1000	1000	1000	968	985	91	93	70-130	2
Copper	ug/L	ND	1000	1000	1000	991	1030	98	102	70-130	4
Iron	ug/L	973000	10000	10000	10000	965000	975000	-82	12	70-130	1
Lead	ug/L	176	1000	1000	1000	1000	1030	82	85	70-130	3
Nickel	ug/L	118	1000	1000	1000	1010	1030	90	91	70-130	1
Selenium	ug/L	ND	1000	1000	1000	1010	976	101	98	70-130	3
Silver	ug/L	ND	500	500	500	33.3	36.3	4	5	70-130	9
Thallium	ug/L	ND	1000	1000	1000	768	758	77	76	70-130	1
Zinc	ug/L	14300	1000	1000	1000	15100	14500	80	22	70-130	4

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099
Pace Project No.: 60155141

QC Batch: MPRP/24677 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	51.3	1000	1000	1000	1030	995	98	94	70-130	3
Arsenic, Dissolved	ug/L	716	1000	1000	1000	1580	1560	87	84	70-130	2
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	890	856	89	86	70-130	4
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1050	998	105	100	70-130	5
Chromium, Dissolved	ug/L	237	1000	1000	1000	1080	1050	85	82	70-130	3
Cobalt, Dissolved	ug/L	40.3	1000	1000	1000	996	946	96	91	70-130	5
Copper, Dissolved	ug/L	ND	1000	1000	1000	1000	971	100	97	70-130	3
Iron, Dissolved	ug/L	362000	10000	10000	10000	399000	376000	376	140	70-130	6
Lead, Dissolved	ug/L	59.0	1000	1000	1000	740	752	68	69	70-130	2
Nickel, Dissolved	ug/L	102	1000	1000	1000	1040	1000	94	90	70-130	4
Selenium, Dissolved	ug/L	ND	1000	1000	1000	922	928	92	92	70-130	1
Silver, Dissolved	ug/L	ND	500	500	500	57.7	60.0	10	10	70-130	4
Thallium, Dissolved	ug/L	ND	1000	1000	1000	766	728	77	73	70-130	5
Zinc, Dissolved	ug/L	11800	1000	1000	1000	12800	12600	101	80	70-130	2

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099

Pace Project No.: 60155141

QC Batch:	MSV/56931	Analysis Method:	EPA 624 Low
QC Batch 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 Analysis Method: EPA 624 Low
QC Batch 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	

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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 Analysis Method: EPA 625
QC Batch 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	

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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

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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

Analysis Method: SM 2540D

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-099

Pace Project No.: 60155141

QC Batch: WET/43972 Analysis Method: SM 4500-H+B

QC Batch 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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155141



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 ☒ 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: 0.9

Date and initials of person examining contents: 8/10/10

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. <u>BOD, PH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☒ No ☐ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>Sep 30</u>		20.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

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

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155222002	TRIP BLANK			

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
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		

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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

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100

Pace Project No.: 60155222

QC Batch: MERP/7816

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100

Pace Project No.: 60155222

QC Batch: MPRP/24721

Analysis Method: EPA 200.7

QC Batch 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	

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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	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike	Spike								Result
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	113000 0	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 316-100
Pace Project No.: 60155222

QC Batch: MPRP/24736 Analysis Method: EPA 200.7
QC Batch 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	

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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		MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	Max
		Result	Conc.	Spike	Spike							
				Conc.	Conc.	Result	Result	% Rec	% Rec			RPD
Antimony, Dissolved	ug/L	ND	1000	1000	1000	916	845	84	77	70-130	8	7 R1
Arsenic, Dissolved	ug/L	690	1000	1000	1000	1730	1620	104	93	70-130	6	10
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	901	808	90	81	70-130	11	7 R1
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	975	881	98	88	70-130	10	10
Chromium, Dissolved	ug/L	257	1000	1000	1000	1150	1070	89	82	70-130	7	10
Cobalt, Dissolved	ug/L	37.4	1000	1000	1000	905	821	87	78	70-130	10	6 R1
Copper, Dissolved	ug/L	ND	1000	1000	1000	975	880	97	88	70-130	10	11
Iron, Dissolved	ug/L	686000	10000	10000	10000	680000	718000	-58	322	70-130	5	10 M1
Lead, Dissolved	ug/L	66.6	1000	1000	1000	867	779	80	71	70-130	11	10 R1
Nickel, Dissolved	ug/L	88.4	1000	1000	1000	952	866	86	78	70-130	9	10
Selenium, Dissolved	ug/L	ND	1000	1000	1000	973	923	97	92	70-130	5	10
Silver, Dissolved	ug/L	ND	500	500	500	17.6	16.4	4	3	70-130	7	10 M1
Thallium, Dissolved	ug/L	ND	1000	1000	1000	735	696	74	70	70-130	5	6
Zinc, Dissolved	ug/L	12000	1000	1000	1000	12900	13200	98	123	70-130	2	11

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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	

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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

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-100

Pace Project No.: 60155222

QC Batch: WET/43972 Analysis Method: SM 4500-H+B

QC Batch 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

REPORT OF LABORATORY ANALYSIS

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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	

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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.

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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155222



Client Name: Bar Engineering

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

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

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

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

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

Date and initials of person examining contents: 10/11/13 [Signature]

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. <u>Boo ph</u>
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:	<u>WT</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	14. <u>Both BP3W & BP3S initial ph 4.5, added 2.5ml to both, final ph for both 3.5</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>[Signature]</u> Lot # of added preservative <u>12510-1-3</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>051313-3</u>		15.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	16. <u>2 of 5 DHAU</u> <u>[Signature]</u>
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: [Signature]

Date: 10/11/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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	

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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
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

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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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101

Pace Project No.: 60155346

QC Batch: MERP/7816

Analysis Method: EPA 245.1

QC Batch 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

Analysis Method: EPA 245.1

QC Batch 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

Analysis Method: EPA 200.7

QC Batch 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	MS	MSD	MS	MSD	MS	MSD	% Rec	Max	Qual	
		Result	Spike	Spike								Result
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	113000 0	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 Analysis Method: EPA 200.7
QC Batch 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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
			Spike Conc.	Spike Conc.						RPD	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 316-101

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

Analysis Method: EPA 625

QC Batch 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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-101

Pace Project No.: 60155346

QC Batch: WET/44066

Analysis Method: SM 2540D

QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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

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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	

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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

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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.

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

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: 10/12/13 B10

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. <u>BOD, pH</u>
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. <u>no volume received for 625.</u>
Pace containers used:	☒ Yes ☐ No ☐ N/A	10. <u>AG 46 - 100mL</u>
Containers intact:	☒ Yes ☐ No ☐ N/A	11. <u>10/14/13</u>
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>water</u>		15.
All containers needing preservation have been checked:	☐ Yes ☐ No ☒ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation:	☐ Yes ☐ No ☒ N/A	17.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>mp</u> Lot # of added preservative
Trip Blank present:	☒ Yes ☐ No ☐ N/A	18. <u>lot 5 vials w/ headspace</u>
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		19.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	20.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	21. 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

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



REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155408002	TRIP BLANK			

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
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

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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
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		

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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

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102

Pace Project No.: 60155408

QC Batch:	MERP/7823	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MPRP/24756 Analysis Method: EPA 200.7
QC Batch 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	

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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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
Antimony	ug/L	ND	1000	1000	1000	1040	1030	104	103	70-130	7
Arsenic	ug/L	ND	1000	1000	1000	1020	1010	101	100	70-130	10
Beryllium	ug/L	ND	1000	1000	1000	1040	1060	104	106	70-130	7
Cadmium	ug/L	0.013	1000	1000	1000	1030	1020	102	101	70-130	10
Chromium	ug/L	mg/L 0.21	1000	1000	1000	1210	1190	100	98	70-130	10
Cobalt	ug/L	ND	1000	1000	1000	1020	1010	102	101	70-130	6
Copper	ug/L	0.031	1000	1000	1000	1060	1050	103	102	70-130	11
Iron	ug/L	mg/L 1410	10000	10000	10000	11600	11900	102	105	70-130	10
Lead	ug/L	0.064	1000	1000	1000	1070	1060	100	99	70-130	10
Nickel	ug/L	mg/L 1.6	1000	1000	1000	2550	2540	96	94	70-130	10
Selenium	ug/L	ND	1000	1000	1000	1030	1010	103	101	70-130	10
Silver	ug/L	ND	500	500	500	504	498	101	99	70-130	10
Thallium	ug/L	ND	1000	1000	1000	993	980	99	98	70-130	6
Zinc	ug/L	0.19	1000	1000	1000	1170	1160	98	97	70-130	11

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102
Pace Project No.: 60155408

QC Batch: MPRP/24736 Analysis Method: EPA 200.7
QC Batch 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	

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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	Max RPD	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 316-102

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	

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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			

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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	

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 1664A

QC Batch 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

Analysis Method: SM 2540D

QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-102

Pace Project No.: 60155408

QC Batch: WET/44004

Analysis Method: SM 5210B

QC Batch 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	

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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. |

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155408



60155408

Client Name: Barr Eng

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 ☐

Thermometer Used: T-112 / T-194

Type of Ice: WET Blue ☐ None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 1.7

Date and initials of person examining contents: Drs 10/14/13 1350

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. <u>BOD, pH</u>
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: <u>water</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	(BPS) (BSS) 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 <u>Drs</u> Lot # of added preservative <u>1290-1-3</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	15.
Pace Trip Blank lot # (if purchased): <u>26033-3</u>		
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16. <u>405A vials w/ headspace (316-102)</u> <u>APPLY QUALIFIER TO SAMPLE BASED</u>
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State. <u>ON HISTORICAL INSTRUCTIONS</u>

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

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



REPORT OF LABORATORY ANALYSIS

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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

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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
		EPA 624 Low	JKL	25
60155409002	TRIP BLANK			

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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

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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
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

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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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103

Pace Project No.: 60155409

QC Batch: MERP/7824

Analysis Method: EPA 245.1

QC Batch 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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103

Pace Project No.: 60155409

QC Batch:	MERP/7823	Analysis Method:	EPA 245.1
QC Batch 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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103

Pace Project No.: 60155409

QC Batch: MPRP/24756

Analysis Method: EPA 200.7

QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						RPD
Antimony	ug/L	ND	1000	1000	1000	1040	1030	104	103	70-130	7
Arsenic	ug/L	ND	1000	1000	1000	1020	1010	101	100	70-130	10
Beryllium	ug/L	ND	1000	1000	1000	1040	1060	104	106	70-130	7
Cadmium	ug/L	0.013	1000	1000	1000	1030	1020	102	101	70-130	10
Chromium	ug/L	mg/L 0.21	1000	1000	1000	1210	1190	100	98	70-130	10
Cobalt	ug/L	ND	1000	1000	1000	1020	1010	102	101	70-130	6
Copper	ug/L	0.031	1000	1000	1000	1060	1050	103	102	70-130	11
Iron	ug/L	mg/L 1410	10000	10000	10000	11600	11900	102	105	70-130	10
Lead	ug/L	0.064	1000	1000	1000	1070	1060	100	99	70-130	10
Nickel	ug/L	mg/L 1.6	1000	1000	1000	2550	2540	96	94	70-130	10
Selenium	ug/L	ND	1000	1000	1000	1030	1010	103	101	70-130	10
Silver	ug/L	ND	500	500	500	504	498	101	99	70-130	10
Thallium	ug/L	ND	1000	1000	1000	993	980	99	98	70-130	6
Zinc	ug/L	0.19	1000	1000	1000	1170	1160	98	97	70-130	11

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-103
Pace Project No.: 60155409

QC Batch: MPRP/24736 Analysis Method: EPA 200.7
QC Batch 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	

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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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max		
			Spike Conc.	Spike Conc.						RPD	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 316-103

Pace Project No.: 60155409

QC Batch: MSV/57045 Analysis Method: EPA 624 Low

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	Analysis Method:	EPA 1664A
QC Batch 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

Analysis Method: SM 2540D

QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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	

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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

Analysis Method: EPA 410.4

QC Batch 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. |

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155409



60155409

Client Name: Barr Eng

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 ☐

Thermometer Used: T-112 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: DRS 12/14/13

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 (<72hrs):	☒ Yes ☐ No ☐ N/A	6. <u>BOD, pH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>water</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16. <u>(BPS) (BSS) unable to be preserved.</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17. Initial when completed: <u>DRS</u> Lot # of added preservative: <u>12510-1-3</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18. <u>headspace in softs vials 316-103 only - Apply Qualification</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19. <u>BASED ON HISTORICAL INSTRUCTIONS</u>
Pace Trip Blank lot # (if purchased): <u>6013-3</u>		20. List State: _____
Headspace in VOA vials (>6mm):	☒ Yes ☒ No ☐ N/A	
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	

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: 12/15/13

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



REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155410002	TRIP BLANK			

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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

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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
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		

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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	Analysis Method:	EPA 245.1
QC Batch 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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MPRP/24756 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony	ug/L	ND	1000	1000	1000	1040	1030	104	103	70-130	1
Arsenic	ug/L	ND	1000	1000	1000	1020	1010	101	100	70-130	1
Beryllium	ug/L	ND	1000	1000	1000	1040	1060	104	106	70-130	2
Cadmium	ug/L	0.013	1000	1000	1000	1030	1020	102	101	70-130	1
		mg/L									
Chromium	ug/L	0.21	1000	1000	1000	1210	1190	100	98	70-130	1
		mg/L									
Cobalt	ug/L	ND	1000	1000	1000	1020	1010	102	101	70-130	1
Copper	ug/L	0.031	1000	1000	1000	1060	1050	103	102	70-130	1
		mg/L									
Iron	ug/L	1410	10000	10000	10000	11600	11900	102	105	70-130	2
Lead	ug/L	0.064	1000	1000	1000	1070	1060	100	99	70-130	1
		mg/L									
Nickel	ug/L	1.6	1000	1000	1000	2550	2540	96	94	70-130	0
		mg/L									
Selenium	ug/L	ND	1000	1000	1000	1030	1010	103	101	70-130	2
Silver	ug/L	ND	500	500	500	504	498	101	99	70-130	1
Thallium	ug/L	ND	1000	1000	1000	993	980	99	98	70-130	1
Zinc	ug/L	0.19	1000	1000	1000	1170	1160	98	97	70-130	1
		mg/L									

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104
Pace Project No.: 60155410

QC Batch: MPRP/24736 Analysis Method: EPA 200.7
QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Limits	Max
		Result	Conc.	Spike	Spike							
				Conc.	Conc.	Result	Result	% Rec	% Rec			RPD
Antimony, Dissolved	ug/L	ND	1000	1000	1000	916	845	84	77	70-130	8	7 R1
Arsenic, Dissolved	ug/L	690	1000	1000	1000	1730	1620	104	93	70-130	6	10
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	901	808	90	81	70-130	11	7 R1
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	975	881	98	88	70-130	10	10
Chromium, Dissolved	ug/L	257	1000	1000	1000	1150	1070	89	82	70-130	7	10
Cobalt, Dissolved	ug/L	37.4	1000	1000	1000	905	821	87	78	70-130	10	6 R1
Copper, Dissolved	ug/L	ND	1000	1000	1000	975	880	97	88	70-130	10	11
Iron, Dissolved	ug/L	686000	10000	10000	10000	680000	718000	-58	322	70-130	5	10 M1
Lead, Dissolved	ug/L	66.6	1000	1000	1000	867	779	80	71	70-130	11	10 R1
Nickel, Dissolved	ug/L	88.4	1000	1000	1000	952	866	86	78	70-130	9	10
Selenium, Dissolved	ug/L	ND	1000	1000	1000	973	923	97	92	70-130	5	10
Silver, Dissolved	ug/L	ND	500	500	500	17.6	16.4	4	3	70-130	7	10 M1
Thallium, Dissolved	ug/L	ND	1000	1000	1000	735	696	74	70	70-130	5	6
Zinc, Dissolved	ug/L	12000	1000	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 Analysis Method: EPA 624 Low

QC Batch 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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104

Pace Project No.: 60155410

QC Batch: WET/44008

Analysis Method: EPA 1664A

QC Batch 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	

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-104

Pace Project No.: 60155410

QC Batch: WET/44026 Analysis Method: SM 4500-H+B

QC Batch 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

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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	

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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.

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 316-104

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

Client Name: Barr Eng

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

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

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

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

Thermometer Used: T-112 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Drs 12/14/13

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. <u>BOD, pH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>water</u>		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16. <u>(EPA) (EPA) unable to be preserved.</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17. <u>Initial when completed Drs</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18. <u>Lot # of added preservative 1250-1-3</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19. <u>5 of 5 vials w/ 100% pass</u>
Pace Trip Blank lot # (if purchased): <u>6013-3</u>		20. <u>316-104 LEACHATE ONLY</u>
Headspace in VOA vials (>6mm):	☒ Yes ☒ No ☐ N/A	21. <u>ADD QUALITY FILTER</u>
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22. <u>MT. List State:</u>

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N ☐

Field Data Required? Y ☒ N ☐

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 12/15/13

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



REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155501002	TRIP BLANK			

REPORT OF LABORATORY ANALYSIS

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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

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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

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: MERP/7828

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch:	MERP/7831	Analysis Method:	EPA 245.1
QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: MPRP/24779

Analysis Method: EPA 200.7

QC Batch 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	

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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	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: MSV/57076 Analysis Method: EPA 624 Low

QC Batch 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			

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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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: WET/44057

Analysis Method: SM 4500-H+B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: WET/44062

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-105

Pace Project No.: 60155501

QC Batch: WETA/26744

Analysis Method: EPA 350.1

QC Batch 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	

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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	

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155501



60155501

Client Name: BARR

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

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

Date and initials of person examining contents: 8/10/16

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: <u>WT</u>	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	
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>S</u> Lot # of added preservative <u>12510</u> <u>12520</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>Oct 7</u>		15.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	16. 4 g 4 VOA - (316-105) FOOTNOTE BASED ON HISTORICAL
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>INSTRUCTIONS</u>

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: 10/16/16

October 24, 2013

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

RE: Project: WEEKLY UNTREATED COMMINGLED
Pace Project No.: 60155538

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



REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

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: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60155538001	TCLP W/O 10-15-13	Water	10/15/13 10:55	10/16/13 02:30

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SAMPLE ANALYTE COUNT

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60155538001	TCLP W/O 10-15-13	EPA 8260	JKL	13
		SM 2540B	RAH	1

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ANALYTICAL RESULTS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

Sample: TCLP W/O 10-15-13		Lab ID: 60155538001	Collected: 10/15/13 10:55	Received: 10/16/13 02:30	Matrix: Water			
Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV TCLP		Analytical Method: EPA 8260 Leachate Method/Date: EPA 1311; 10/18/13 00:00						
Benzene	711 ug/L		250	5		10/23/13 13:43	71-43-2	
2-Butanone (MEK)	72600 ug/L		25000	25		10/23/13 15:30	78-93-3	M1
Carbon tetrachloride	ND ug/L		250	5		10/23/13 13:43	56-23-5	
Chlorobenzene	ND ug/L		250	5		10/23/13 13:43	108-90-7	
Chloroform	ND ug/L		1000	5		10/23/13 13:43	67-66-3	
1,2-Dichloroethane	ND ug/L		250	5		10/23/13 13:43	107-06-2	
1,1-Dichloroethene	ND ug/L		250	5		10/23/13 13:43	75-35-4	
Tetrachloroethene	ND ug/L		250	5		10/23/13 13:43	127-18-4	
Trichloroethene	ND ug/L		250	5		10/23/13 13:43	79-01-6	
Vinyl chloride	ND ug/L		250	5		10/23/13 13:43	75-01-4	
Surrogates								
1,2-Dichloroethane-d4 (S)	97 %		80-120	5		10/23/13 13:43	17060-07-0	
Toluene-d8 (S)	101 %		80-120	5		10/23/13 13:43	2037-26-5	
4-Bromofluorobenzene (S)	100 %		80-120	5		10/23/13 13:43	460-00-4	
2540B Total Solids		Analytical Method: SM 2540B						
Total Solids	74100 mg/L		5.0	1		10/18/13 16:07		

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

QC Batch: MSV/57173

Analysis Method: EPA 8260

QC Batch Method: EPA 8260

Analysis Description: 8260 MSV TCLP

Associated Lab Samples: 60155538001

METHOD BLANK: 1276761

Matrix: Water

Associated Lab Samples: 60155538001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1-Dichloroethene	ug/L	ND	50.0	10/23/13 13:28	
1,2-Dichloroethane	ug/L	ND	50.0	10/23/13 13:28	
2-Butanone (MEK)	ug/L	ND	1000	10/23/13 13:28	
Benzene	ug/L	ND	50.0	10/23/13 13:28	
Carbon tetrachloride	ug/L	ND	50.0	10/23/13 13:28	
Chlorobenzene	ug/L	ND	50.0	10/23/13 13:28	
Chloroform	ug/L	ND	200	10/23/13 13:28	
Tetrachloroethene	ug/L	ND	50.0	10/23/13 13:28	
Trichloroethene	ug/L	ND	50.0	10/23/13 13:28	
Vinyl chloride	ug/L	ND	50.0	10/23/13 13:28	
1,2-Dichloroethane-d4 (S)	%	98	80-120	10/23/13 13:28	
4-Bromofluorobenzene (S)	%	99	80-120	10/23/13 13:28	
Toluene-d8 (S)	%	100	80-120	10/23/13 13:28	

LABORATORY CONTROL SAMPLE: 1276762

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	1000	1000	100	70-127	
1,2-Dichloroethane	ug/L	1000	909	91	72-122	
2-Butanone (MEK)	ug/L	5000	4800	96	69-124	
Benzene	ug/L	1000	936	94	73-122	
Carbon tetrachloride	ug/L	1000	1040	104	73-125	
Chlorobenzene	ug/L	1000	953	95	80-120	
Chloroform	ug/L	1000	880	88	76-120	
Tetrachloroethene	ug/L	1000	994	99	79-122	
Trichloroethene	ug/L	1000	1000	100	76-120	
Vinyl chloride	ug/L	1000	816	82	57-140	
1,2-Dichloroethane-d4 (S)	%			96	80-120	
4-Bromofluorobenzene (S)	%			98	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1276763

Parameter	Units	60155538001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1-Dichloroethene	ug/L	ND	5000	4830	97	66-142	
1,2-Dichloroethane	ug/L	ND	5000	4510	90	53-144	
2-Butanone (MEK)	ug/L	72600	25000	106000	135	54-127 M1	
Benzene	ug/L	711	5000	5260	91	48-150	
Carbon tetrachloride	ug/L	ND	5000	5120	102	68-145	
Chlorobenzene	ug/L	ND	5000	4870	97	68-131	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

MATRIX SPIKE SAMPLE:		1276763					
Parameter	Units	60155538001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloroform	ug/L	ND	5000	4460	89	69-126	
Tetrachloroethene	ug/L	ND	5000	5050	101	66-139	
Trichloroethene	ug/L	ND	5000	4930	99	67-130	
Vinyl chloride	ug/L	ND	5000	3990	80	47-159	
1,2-Dichloroethane-d4 (S)	%				92	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				99	80-120	

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QUALITY CONTROL DATA

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

QC Batch: WET/44090

Analysis Method: SM 2540B

QC Batch Method: SM 2540B

Analysis Description: 2540B Total Solids

Associated Lab Samples: 60155538001

METHOD BLANK: 1274213

Matrix: Water

Associated Lab Samples: 60155538001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Solids	mg/L	ND	5.0	10/18/13 16:07	

LABORATORY CONTROL SAMPLE: 1274214

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Solids	mg/L	1000	964	96	80-120	

SAMPLE DUPLICATE: 1274434

Parameter	Units	60155538001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Solids	mg/L	74100	74500	1	10	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

SAMPLE QUALIFIERS

Sample: 60155538001

[1] The TCLP sample matrix contains 0.4 % TCLP dry solids.

[2] The request for Percent Solids on the chain of custody is replaced with Total Solids due to the matrix of the sample.

ANALYTE QUALIFIERS

M1 Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: WEEKLY UNTREATED COMMINGLED

Pace Project No.: 60155538

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60155538001	TCLP W/O 10-15-13	EPA 8260	MSV/57173		
60155538001	TCLP W/O 10-15-13	SM 2540B	WET/44090		

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Sample Condition Upon Receipt

WO#: 60155538



60155538

Client Name: BACR

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 ☒ zip

Thermometer Used: T-112 T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/10/14

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☐ Yes ☒ No ☐ N/A	6.
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☐ Yes ☒ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	<u>383 VOA TCLP w/o 10-15-13</u> <u>-OK</u>
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: [Signature] Date: 10/1/14

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Page:

of

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location

MO

STATE:

Requested Analysis Filtered (Y/N)

ITEM #	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	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test Y/N	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Paul Linsley / FEI	10-15-13	2:25pm	Hunter King / PA	10-15-13	2:25pm				
				Shirley Mckay / PA	10/16	0230	21	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

DATE Signed

(MM/DD/YY):

Temp in °C

Received on
Ice (Y/N)

Custody Sealed
Cooler (Y/N)

Samples Intact
(Y/N)

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155621002	TRIP BLANK			

REPORT OF LABORATORY ANALYSIS

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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.

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
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

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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
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

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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

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106

Pace Project No.: 60155621

QC Batch:	MERP/7843	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch:	MPRP/24823	Analysis Method:	EPA 200.7
QC Batch 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	

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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	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	101000 0	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	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	137000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106
Pace Project No.: 60155621

QC Batch: MPRP/24824 Analysis Method: EPA 200.7
QC Batch 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	

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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 Analysis Method: EPA 624 Low
QC Batch 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	

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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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-106

Pace Project No.: 60155621

QC Batch: WET/44108 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: EPA 350.1

QC Batch 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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155621



60155621

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 ☒ RipL

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. <u>BOD, PH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>W</u>		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☐ No ☐ N/A	17.
Exceptions <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>Oct. 07</u>		20.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

Add hno3 to BP3N 316-106 S.O/4.0
Add h2so4 to BP3S 316-106 S.O/4.0
Initial when completed S Lot # of added preservative 12510 12520

165 VOA (DGRA)

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

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

[illegible]

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: John Powell					
SIGNATURE of SAMPLER: [Signature]	DATE Signed: 10-16-13				

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

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155721002	TRIP BLANK			

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
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	113000 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

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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
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		

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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

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107

Pace Project No.: 60155721

QC Batch: MERP/7838

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	101000 0	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	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	137000 0	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 Analysis Method: EPA 200.7
QC Batch 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

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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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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	

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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

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-107

Pace Project No.: 60155721

QC Batch: WET/44112 Analysis Method: SM 4500-H+B

QC Batch 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

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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	

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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

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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.

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

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 PL

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

Date and initials of person examining contents: 10/18/13 BA

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. pH, BOD
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
Pace containers used:	☐ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased):		20.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

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
Initial when completed BA
Lot # of added preservative AN0312510
H250412520

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N ☐ Field Data Required? Y ☒ N ☐

Person Contacted: _____

Date/Time: 10/18/13

Comments/ Resolution: _____

Project Manager Review: [Signature]

Date: 10/18/13

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



REPORT OF LABORATORY ANALYSIS

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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

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
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

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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		

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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

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108

Pace Project No.: 60155819

QC Batch:	MERP/7843	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MPRP/24823 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	101000 0	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	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	137000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108
Pace Project No.: 60155819

QC Batch: MPRP/24824 Analysis Method: EPA 200.7
QC Batch 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	

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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	

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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			

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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	

REPORT OF LABORATORY ANALYSIS

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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	Analysis Method:	EPA 1664A
QC Batch 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	

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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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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108

Pace Project No.: 60155819

QC Batch: WET/44168

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-108

Pace Project No.: 60155819

QC Batch: WET/44112 Analysis Method: SM 4500-H+B

QC Batch 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

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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	

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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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155819



Client Name: Barr

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

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

Date and initials of person examining contents: Jan 16/19

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. <u>600</u>
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:	<u>NR</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	Initial HNO3 pH ~6.0; added 2.5ml HNO3; final ~4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	Initial H2SO4 pH ~6.0; added 2ml H2SO4; final ~3.5
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>16</u> Lot # of added preservative <u>12510 HNO3</u> <u>12520 H2SO4</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased):		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16. <u>3 of 5 sample vials</u>
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>ND</u>

Client Notification/ Resolution:

Copy COC to Client? Y / N

Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Shed for (AKB) Date: 10-19-13

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

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155875002	TRIP BLANK			

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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

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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		

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109

Pace Project No.: 60155875

QC Batch: MERP/7844

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109

Pace Project No.: 60155875

QC Batch:	MERP/7843	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MPRP/24823 Analysis Method: EPA 200.7
QC Batch 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	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	101000 0	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	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	137000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109
Pace Project No.: 60155875

QC Batch: MPRP/24824 Analysis Method: EPA 200.7
QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109

Pace Project No.: 60155875

QC Batch: WET/44196

Analysis Method: SM 2540D

QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-109

Pace Project No.: 60155875

QC Batch: WET/44137

Analysis Method: SM 5210B

QC Batch 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	

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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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

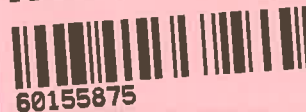
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Sample Condition Upon Receipt

WO#: 60155875



Client Name: Bart

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: 2.1

Date and initials of person examining contents: lu 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. <u>bar pH</u>
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: <u>wt</u>		13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>HNO₃ volume initial pH ~6.0; added 2.5 ml HNO₃; final pH ~4.0</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>4.5% volume initial pH ~6.0; added 2 ml H₂SO₄; final pH ~3.5</u>
Exceptions: VOA, coliform, TOC, <u>P&G</u> , WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>lu</u> Lot # of added preservative <u>12520/12510</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>lot 14</u>		15.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	16. <u>Headspace in 5 of 5 sample vials (316-104 only)</u>
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: [Signature]

Date: 10/22/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155874002	TRIP BLANK			

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
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

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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
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		

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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		

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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

Analysis Method: EPA 245.1

QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	101000 0	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	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	137000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111
Pace Project No.: 60155874

QC Batch: MPRP/24824 Analysis Method: EPA 200.7
QC Batch 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	

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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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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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111

Pace Project No.: 60155874

QC Batch: OEXT/41098

Analysis Method: EPA 625

QC Batch 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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-111

Pace Project No.: 60155874

QC Batch:	WET/44141	Analysis Method:	SM 4500-H+B
QC Batch 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	

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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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155874



Client Name: Bart

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: 3.3

Date and initials of person examining contents: 10/24/12

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. <u>BCD pH</u>
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:	<u>wt</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>HNO3 volume initial pH ~6.0; added 2.5ml HNO3; Final pH ~4.0</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>H2SO4 volume initial pH ~6.0; added 2ml H2SO4; Final pH ~3.5</u>
Exceptions: VOA, coliform, TOC, <u>POC</u> , WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>6w</u> Lot # of added preservative <u>12520/12510</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased):	<u>00114</u>	15.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	16. <u>Headspace in 5 of 5 sample vials (316-111) only</u>
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: [Signature]

Date: 10/22/12

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155876002	TRIP BLANK			

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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

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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
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		

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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

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R

Pace Project No.: 60155876

QC Batch: MERP/7844

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R

Pace Project No.: 60155876

QC Batch:	MERP/7843	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R
Pace Project No.: 60155876

QC Batch: MPRP/24823 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	101000 0	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	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	137000 0	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 Analysis Method: EPA 200.7
QC Batch 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	

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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

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R

Pace Project No.: 60155876

QC Batch: MSV/57162 Analysis Method: EPA 624 Low

QC Batch 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	Analysis Method:	EPA 625
QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-110R

Pace Project No.: 60155876

QC Batch: WET/44141 Analysis Method: SM 4500-H+B

QC Batch 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

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 350.1

QC Batch 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	

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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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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60155876



60155876

Client Name: Bart

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: 10/22/13

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. <u>bcn pH</u>
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:	<u>wt</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>HNO3 volume initial pH ~6.0; added 2.5 ml HNO3; Final pH ~4.0</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>H2SO4 volume initial pH ~6.0; added 2 ml H2SO4; Final pH ~3.5</u>
Exceptions: VOA, coliform, TOC, <u>P&G</u> , WI-DRO (water), Phenolics	☒ Yes ☐ No	14.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Initial when completed <u>bn</u> Lot # of added preservative <u>12520/12510</u>
Pace Trip Blank lot # (if purchased): <u>lot 14</u>		15.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	16. <u>Headspace in 5 of 5 sample vials 316-1102 only</u>
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: [Signature]

Date: 10/22/13

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

Regulatory Agency
State / Location
Missouri

[illegible][illegible]

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:					
SIGNATURE of SAMPLER:	DATE Signed:				
Hunter King <i>[Signature]</i>					

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60155988002	TRIP BLANK			

REPORT OF LABORATORY ANALYSIS

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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

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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
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

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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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112

Pace Project No.: 60155988

QC Batch: MERP/7852

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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 Analysis Method: EPA 200.7
QC Batch 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	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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112

Pace Project No.: 60155988

QC Batch: MPRP/24879

Analysis Method: EPA 200.7

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112

Pace Project No.: 60155988

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 12795251279526												
Parameter	60155988001		MS	MSD	MS	MSD	MS	MSD	% Rec	Max		Qual
	Units	Result	Spike	Spike						Result	Result	
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

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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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112
Pace Project No.: 60155988

QC Batch:	OEXT/41133	Analysis Method:	EPA 625
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112

Pace Project No.: 60155988

QC Batch:	WET/44190	Analysis Method:	EPA 1664A
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-112

Pace Project No.: 60155988

QC Batch:	WET/44206	Analysis Method:	SM 4500-H+B
QC Batch 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	

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 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 ☒ Ziploc

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: _____

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. <u>pH, BOD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>wt</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed <u>S</u> Lot # of added preservative <u>12510 12520</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	18.
Pace Trip Blank lot # (if purchased): <u>06410</u>		19.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	20. <u>395 VOA 316-112</u>
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	21. 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: [Signature] Date: 10/24/13

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156091002	TRIP BLANK			

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
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		

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R

Pace Project No.: 60156091

QC Batch: MERP/7857

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R

Pace Project No.: 60156091

QC Batch:	MERP/7873	Analysis Method:	EPA 245.1
QC Batch 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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MPRP/24861 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R
Pace Project No.: 60156091

QC Batch: MPRP/24921 Analysis Method: EPA 200.7
QC Batch 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	

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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		MS	MSD	MSD		MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	ND	1000	1000	1000	1010	1080	99	107	70-130	7
Arsenic, Dissolved	ug/L	711	1000	1000	1000	1860	1880	115	116	70-130	1
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	900	886	90	89	70-130	2
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1070	1070	107	107	70-130	0
Chromium, Dissolved	ug/L	257	1000	1000	1000	1260	1230	100	98	70-130	2
Cobalt, Dissolved	ug/L	36.1	1000	1000	1000	935	930	90	89	70-130	1
Copper, Dissolved	ug/L	ND	1000	1000	1000	1060	1050	106	105	70-130	1
Iron, Dissolved	ug/L	862000	10000	10000	10000	800000	865000	-620	28	70-130	8
Lead, Dissolved	ug/L	55.8	1000	1000	1000	908	893	85	84	70-130	2
Nickel, Dissolved	ug/L	110	1000	1000	1000	1010	1010	90	90	70-130	0
Selenium, Dissolved	ug/L	ND	1000	1000	1000	1180	1150	118	115	70-130	3
Silver, Dissolved	ug/L	ND	500	500	500	567	568	111	111	70-130	0
Thallium, Dissolved	ug/L	ND	1000	1000	1000	808	776	81	78	70-130	4
Zinc, Dissolved	ug/L	11900	1000	1000	1000	12100	13100	22	117	70-130	8

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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	

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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	

REPORT OF LABORATORY ANALYSIS

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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

Analysis Method: EPA 1664A

QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-113R

Pace Project No.: 60156091

QC Batch: WETA/26832

Analysis Method: EPA 350.1

QC Batch 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	

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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

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156091



Client Name: Barr Engineering

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ 4-Boards

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: 2.7

Date and initials of person examining contents: 10/24/13 [Signature]

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 (<72hrs):	☒ Yes ☐ No ☐ N/A	6. <u>BOD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13. <u>initial pH for BPSN 4.5, added 2.5 mL H₂O?</u> <u>final pH 3.5. Final pH BPSN 4.0, added 2.5 mL</u> <u>final pH 2.0.</u>
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WT</u>		Initial when completed <u>[Signature]</u> Lot # of added preservative <u>12510-10-9</u>
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	15.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	16.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	17. List State:
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	

Client Notification/ Resolution:

Copy COC to Client? Y ☐ N ☒

Field Data Required? Y ☐ N ☒

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

CHAIN-OF-CUSTODY / Analytical Request Document

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

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

Page: 1 Of 1

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 Drinking Water Water Waste Water Product Soil/Solid Oil Wipe Air Other Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Y/N	Requested Analysis Filtered (Y/N)															Residual Chlorine (Y/N)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test	COD EPA 410		pH SM 4500H+B	LF DIS METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	OIG EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664	BOD SM 5210B																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
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METALS LIST total & LF Dis:

Al, Sb, As, Be, Cd, Cr,

Co, Cu, Fe, Pb, Ni, Se, Ag, Ti, Zn

and Mercury

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION

DATE

TIME

ACCEPTED BY / AFFILIATION

DATE

TIME

SAMPLE CONDITIONS

SITE CONTACT: BILL ABERNATHY 314-502-1299

SITE ADDRESS: BRIDGETON LF

13570 ST. CHARLES ROCK RD

BRIDGETON MO 63044

Paul Linscott / FEI

10-23-13 2:23pm

Kenneth Henth

10-23-13 2:23pm

E. Brackett / Pace

10/24 0125

2.7

Y

Y

Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER:

John Powell

[Signature]

DATE Signed:

10-23-13

TEMP in C

Received on

Ice (Y/N)

Y

Custody Sealed

Cooler (Y/N)

Y

Samples Intact

(Y/N)

Y

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

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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
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

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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
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

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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

Analysis Method: EPA 200.7

QC Batch 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	

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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	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	107000 0	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

Analysis Method: EPA 200.7

QC Batch 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		MS	MSD	MSD		MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	ND	1000	1000	1000	1010	1080	99	107	70-130	7
Arsenic, Dissolved	ug/L	711	1000	1000	1000	1860	1880	115	116	70-130	1
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	900	886	90	89	70-130	2
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1070	1070	107	107	70-130	0
Chromium, Dissolved	ug/L	257	1000	1000	1000	1260	1230	100	98	70-130	2
Cobalt, Dissolved	ug/L	36.1	1000	1000	1000	935	930	90	89	70-130	1
Copper, Dissolved	ug/L	ND	1000	1000	1000	1060	1050	106	105	70-130	1
Iron, Dissolved	ug/L	862000	10000	10000	10000	800000	865000	-620	28	70-130	8
Lead, Dissolved	ug/L	55.8	1000	1000	1000	908	893	85	84	70-130	2
Nickel, Dissolved	ug/L	110	1000	1000	1000	1010	1010	90	90	70-130	0
Selenium, Dissolved	ug/L	ND	1000	1000	1000	1180	1150	118	115	70-130	3
Silver, Dissolved	ug/L	ND	500	500	500	567	568	111	111	70-130	0
Thallium, Dissolved	ug/L	ND	1000	1000	1000	808	776	81	78	70-130	4
Zinc, Dissolved	ug/L	11900	1000	1000	1000	12100	13100	22	117	70-130	8

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114
Pace Project No.: 60156189

QC Batch: OEXT/41183 Analysis Method: EPA 625
QC Batch 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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114

Pace Project No.: 60156189

QC Batch: WET/44230 Analysis Method: SM 4500-H+B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114

Pace Project No.: 60156189

QC Batch: WET/44221

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-114

Pace Project No.: 60156189

QC Batch:	WETA/26832	Analysis Method:	EPA 350.1
QC Batch 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

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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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WO#: 60156189



60156189



Sample Condition Upon Receipt

Client Name: Barr EngineeringCourier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☒ 1-800-25Tracking #: _____ 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 ☒ 2plcThermometer Used: T-112 / T-194Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)Cooler Temperature: 1.1Date and initials of person examining contents: 10/25/13 AKB

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. <u>POD</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	8P3N initial pH 4.5, added 2.5 mL, final 3.5 8P3S initial pH 4.0, added 2.5 mL, final 2.5
Includes date/time/ID/analyses Matrix: <u>WA</u>		
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	14.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	
Exceptions: <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		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 / NField Data Required? Y / N

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: Rev for AKBDate: 10/25

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156288002	TRIP BLANK			

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
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	105000 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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch: MERP/7861

Analysis Method: EPA 245.1

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch:	MERP/7873	Analysis Method:	EPA 245.1
QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MPRP/24892 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	107000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R
Pace Project No.: 60156288

QC Batch: MPRP/24921 Analysis Method: EPA 200.7
QC Batch 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	

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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		MS	MSD	MS		MSD	% Rec		Max
		Result	Conc.	Spike	Spike	Result	Result	% Rec	% Rec	Limits	RPD
Antimony, Dissolved	ug/L	ND	1000	1000	1000	1010	1080	99	107	70-130	7
Arsenic, Dissolved	ug/L	711	1000	1000	1000	1860	1880	115	116	70-130	1
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	900	886	90	89	70-130	2
Cadmium, Dissolved	ug/L	ND	1000	1000	1000	1070	1070	107	107	70-130	0
Chromium, Dissolved	ug/L	257	1000	1000	1000	1260	1230	100	98	70-130	2
Cobalt, Dissolved	ug/L	36.1	1000	1000	1000	935	930	90	89	70-130	1
Copper, Dissolved	ug/L	ND	1000	1000	1000	1060	1050	106	105	70-130	1
Iron, Dissolved	ug/L	862000	10000	10000	10000	800000	865000	-620	28	70-130	8
Lead, Dissolved	ug/L	55.8	1000	1000	1000	908	893	85	84	70-130	2
Nickel, Dissolved	ug/L	110	1000	1000	1000	1010	1010	90	90	70-130	0
Selenium, Dissolved	ug/L	ND	1000	1000	1000	1180	1150	118	115	70-130	3
Silver, Dissolved	ug/L	ND	500	500	500	567	568	111	111	70-130	0
Thallium, Dissolved	ug/L	ND	1000	1000	1000	808	776	81	78	70-130	4
Zinc, Dissolved	ug/L	11900	1000	1000	1000	12100	13100	22	117	70-130	8

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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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch: OEXT/41183

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch: WET/44231 Analysis Method: SM 4500-H+B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch: WET/44233

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-115R

Pace Project No.: 60156288

QC Batch: WETA/26914

Analysis Method: EPA 350.1

QC Batch 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

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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

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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. |

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156288



60156288

Client Name: Barr Eng.

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

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

Date and initials of person examining contents: 10/26/13 [Signature]

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. <u>BOO</u>
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: <u>W</u>		13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>BP2W initial pH 4.5, added 2.5 mL final 3.0</u>
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	<u>BP3S initial pH 3.5, added 2.5 mL final 3.5</u>
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics ☒	☒ Yes ☐ No	Initial when completed <u>[Signature]</u> Lot # of added preservative <u>12513-9-10</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>060313-3</u>		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: [Signature]

Date: 10.26.13

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



REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156334002	TRIP BLANK			

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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

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch: MERP/7866

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch:	MERP/7876	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch: MPRP/24892

Analysis Method: EPA 200.7

QC Batch 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	

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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	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	107000 0	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 Analysis Method: EPA 200.7
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

MATRIX SPIKE SAMPLE: 1281762		60156334001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% 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	Dup	RPD	Max	
		Result	Result		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

Analysis Method: EPA 625

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch:	WET/44262	Analysis Method:	EPA 1664A
QC Batch 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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch: WET/44284

Analysis Method: SM 4500-H+B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-116

Pace Project No.: 60156334

QC Batch:	WETA/26914	Analysis Method:	EPA 350.1
QC Batch 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

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156334



60156334

Client Name: Barr Eng.

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

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

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

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

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 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. <u>BOD</u>
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: <u>water</u>	13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	<u>Samples not able to be preserved.</u>
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
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative <u>12510-2-3</u>
Pace Trip Blank lot # (if purchased): <u>covered</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>WV</u>

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: 10/28/13

Page : 1 Of 1

Section C

Required Client Information:

Required Project Information:

Invoice Information:

Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: JANET ROLLEN	Page: 1 of 1
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

[illegible]

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



REPORT OF LABORATORY ANALYSIS

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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

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

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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						
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

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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
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

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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
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			

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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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

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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

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QUALITY CONTROL DATA

Project: OUTFALL #3

Pace Project No.: 60156471

QC Batch: OEXT/41247

Analysis Method: EPA 8270

QC Batch Method: EPA 3510

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	

REPORT OF LABORATORY ANALYSIS

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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

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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

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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	

REPORT OF LABORATORY ANALYSIS

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156471



60156471

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 ☒ 2up

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.

Cooler Temperature: 2.2

Date and initials of person examining contents: 8/10/30

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.
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>wt</u>	15.
All containers needing preservation have been checked.	☐ Yes ☒ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	Initial when completed
Trip Blank present:	☐ Yes ☒ No ☐ N/A	Lot # of added preservative
Pace Trip Blank lot # (if purchased):		18.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	19.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	20. 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 B2D EXT.

Project Manager Review: [Signature]

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.

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**

Page: 1 of 1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER

☐ UST ☐ RCRA ☐ OTHER

Site Location: **MO**

STATE: **MO**

ITEM #	Section D Required Client Information	Valid Matrix Codes MATRIX CODE DRINKING WATER DW WASTE WATER WW PRODUCT P SOIL/SOLID SL OIL OL WIPE WP AIR AR OTHER OT TISSUE TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives								Analysis Test	Requested Analysis Filtered (Y/N)												Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																									
					COMPOSITE START		COMPOSITE END/GRAB				Unpreserved	H ₂ SO ₄	HNO ₃	HCl	NaOH	Na ₂ S ₂ O ₃	Methanol	Other		VOC EPA 8260	SYOC EPA 8270																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					</

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Julie Cook / Feezor Eng'g	10/29/13	1400	Janet Rolten / March	10/29/13	1400	
				Shaden Maly / PACE	10/30	0215	2.2 y y
							AG 14, 30044
							8-10/30

SAMPLER NAME AND SIGNATURE		Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: Brad Vits					
SIGNATURE of SAMPLER: Brad Vits					
DATE Signed (MM/DD/YY): 10/29/13					

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156333002	TRIP BLANK			

REPORT OF LABORATORY ANALYSIS

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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

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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
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

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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
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

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch:	MERP/7876	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch: MPRP/24892

Analysis Method: EPA 200.7

QC Batch 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	

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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	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	107000 0	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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch:	MPRP/24944	Analysis Method:	EPA 200.7
QC Batch 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	

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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	

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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

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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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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch: WET/44262

Analysis Method: EPA 1664A

QC Batch 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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch: WET/44284 Analysis Method: SM 4500-H+B

QC Batch 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

Analysis Method: SM 5210B

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-117

Pace Project No.: 60156333

QC Batch:	WETA/26914	Analysis Method:	EPA 350.1
QC Batch 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

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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	

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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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 X12

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: WA Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: _____

Date and initials of person examining contents: 10/24/13 1900

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. <u>BOD</u>
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: <u>water</u>		13.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	14. <u>Samples not able to be preserved.</u>
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
Trip Blank present:	☒ Yes ☐ No ☐ N/A	Lot # of added preservative <u>12510-2-3</u>
Pace Trip Blank lot # (if purchased): <u>covered</u>		15.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	16.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	17. List State: <u>MO</u>

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

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



REPORT OF LABORATORY ANALYSIS

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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

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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
		EPA 624 Low	JKL	25
60156427002	TRIP BLANK			

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
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

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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
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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118

Pace Project No.: 60156427

QC Batch: MERP/7872

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118

Pace Project No.: 60156427

QC Batch:	MERP/7876	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MPRP/24910 Analysis Method: EPA 200.7
QC Batch 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	

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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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony	ug/L	68.4	1000	1000	1000	852	838	78	77	70-130	2
Arsenic	ug/L	840	1000	1000	1000	1960	1940	112	110	70-130	1
Beryllium	ug/L	ND	1000	1000	1000	922	930	92	93	70-130	1
Cadmium	ug/L	ND	1000	1000	1000	1020	1020	102	102	70-130	0
Chromium	ug/L	302	1000	1000	1000	1250	1260	94	95	70-130	1
Cobalt	ug/L	34.7	1000	1000	1000	950	958	91	92	70-130	1
Copper	ug/L	ND	1000	1000	1000	984	979	98	98	70-130	1
Iron	ug/L	946000	10000	10000	10000	924000	927000	-210	-185	70-130	0
Lead	ug/L	136	1000	1000	1000	1030	1040	89	90	70-130	2
Nickel	ug/L	117	1000	1000	1000	1040	1040	92	92	70-130	0
Selenium	ug/L	ND	1000	1000	1000	1020	1030	102	103	70-130	1
Silver	ug/L	ND	500	500	500	8.9J	8.4J	1	1	70-130	10
Thallium	ug/L	ND	1000	1000	1000	740	740	74	74	70-130	0
Zinc	ug/L	15200	1000	1000	1000	15700	15500	51	29	70-130	1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118
Pace Project No.: 60156427

QC Batch: MPRP/24944 Analysis Method: EPA 200.7
QC Batch 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		60156334001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% 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	Dup	RPD	Max	
		Result	Result		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 316-118

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			

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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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118

Pace Project No.: 60156427

QC Batch: WET/44330

Analysis Method: SM 2540D

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-118

Pace Project No.: 60156427

QC Batch: WET/44343 Analysis Method: SM 4500-H+B

QC Batch 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

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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	Analysis Method:	EPA 350.1
QC Batch 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

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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	

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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. |

REPORT OF LABORATORY ANALYSIS

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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

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 ☒ 2x2

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

Date and initials of person examining contents: S 10/30

Temperature should be above freezing to 6°C

Chain of Custody present:	☒ Yes ☐ No ☐ N/A	1.
Chain of Custody filled out:	☒ Yes ☐ No ☐ N/A	2.
Chain of Custody relinquished:	☒ Yes ☐ No ☐ N/A	3.
Sampler name & signature on COC:	☒ Yes ☐ No ☐ N/A	4.
Samples arrived within holding time:	☒ Yes ☐ No ☐ N/A	5.
Short Hold Time analyses (<72hr):	☒ Yes ☐ No ☐ N/A	6. PH, BOD
Rush Turn Around Time requested:	☐ Yes ☒ No ☐ N/A	7.
Sufficient volume:	☒ Yes ☐ No ☐ N/A	8.
Correct containers used:	☒ Yes ☐ No ☐ N/A	9.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses	Matrix: <u>WT</u>	15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☒ Yes ☒ No ☐ N/A	17.
Exceptions <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>OGT 18</u>		20.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

Add hr 3 to 316-118 BP3N 5.0/4.0
Add h2s04 to 316-118 B13S 5.0/3.5

Initial when completed S

Lot # of added preservative 125 20
125 13

208 5 VOA

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

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



REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156430002	TRIP BLANK			

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
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

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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

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119

Pace Project No.: 60156430

QC Batch: MPRP/24910

Analysis Method: EPA 200.7

QC Batch 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		MS	MSD	MS	MSD	MS	MSD	% Rec	Max
		Result	Conc.	Spike	Spike						
				Conc.	Conc.	Result	Result	% Rec	% Rec	Limits	RPD
Antimony	ug/L	68.4	1000	1000	1000	852	838	78	77	70-130	2
Arsenic	ug/L	840	1000	1000	1000	1960	1940	112	110	70-130	1
Beryllium	ug/L	ND	1000	1000	1000	922	930	92	93	70-130	1
Cadmium	ug/L	ND	1000	1000	1000	1020	1020	102	102	70-130	0
Chromium	ug/L	302	1000	1000	1000	1250	1260	94	95	70-130	1
Cobalt	ug/L	34.7	1000	1000	1000	950	958	91	92	70-130	1
Copper	ug/L	ND	1000	1000	1000	984	979	98	98	70-130	1
Iron	ug/L	946000	10000	10000	10000	924000	927000	-210	-185	70-130	0
Lead	ug/L	136	1000	1000	1000	1030	1040	89	90	70-130	2
Nickel	ug/L	117	1000	1000	1000	1040	1040	92	92	70-130	0
Selenium	ug/L	ND	1000	1000	1000	1020	1030	102	103	70-130	1
Silver	ug/L	ND	500	500	500	8.9J	8.4J	1	1	70-130	10
Thallium	ug/L	ND	1000	1000	1000	740	740	74	74	70-130	0
Zinc	ug/L	15200	1000	1000	1000	15700	15500	51	29	70-130	1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119

Pace Project No.: 60156430

QC Batch: MPRP/24944

Analysis Method: EPA 200.7

QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119

Pace Project No.: 60156430

MATRIX SPIKE SAMPLE: 1281762		60156334001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% 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	Dup	RPD	Max	
		Result	Result		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	Analysis Method:	EPA 624 Low
QC Batch 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	

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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	Analysis Method:	EPA 624 Low
QC Batch 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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119

Pace Project No.: 60156430

QC Batch: OEXT/41249

Analysis Method: EPA 625

QC Batch 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	

REPORT OF LABORATORY ANALYSIS

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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	

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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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-119

Pace Project No.: 60156430

QC Batch: WET/44343 Analysis Method: SM 4500-H+B

QC Batch 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

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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

Analysis Method: EPA 350.1

QC Batch 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

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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.

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156430



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: 3.4

Date and initials of person examining contents: 2/10/30

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. <u>BOD, pH</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☒ No ☐ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix: <u>WT</u>		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions: <u>VOA</u> coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>DC-18</u>		20.
Headspace in VOA vials (>6mm):	☒ Yes ☐ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☒ No ☐ N/A	22.

Client Notification/ Resolution:

Copy COC to Client? Y IN

Field Data Required? Y IN

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: _____

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



REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156541002	TRIP BLANK			

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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

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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

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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		

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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		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120

Pace Project No.: 60156541

QC Batch: MERP/7875

Analysis Method: EPA 245.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120

Pace Project No.: 60156541

QC Batch:	MERP/7876	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120
Pace Project No.: 60156541

QC Batch: MPRP/24954 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	Analysis Method:	EPA 200.7
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120

Pace Project No.: 60156541

MATRIX SPIKE SAMPLE: 1281762		60156334001	Spike	MS	MS	% Rec	
Parameter	Units	Result	Conc.	Result	% 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	Dup	RPD	Max	
		Result	Result		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	Analysis Method:	EPA 625
QC Batch 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	Analysis Method:	EPA 1664A
QC Batch 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 Analysis Method: SM 4500-H+B

QC Batch 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

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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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120

Pace Project No.: 60156541

QC Batch: WETA/26914

Analysis Method: EPA 350.1

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-120

Pace Project No.: 60156541

QC Batch:	WETA/26967	Analysis Method:	EPA 410.4
QC Batch 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	

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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. |

REPORT OF LABORATORY ANALYSIS

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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		

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60156541



60156541

Client Name: BARR

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 ☒ Zip

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 1.2

Date and initials of person examining contents: 8/10/31

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	9.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	14.
Includes date/time/ID/analyses Matrix:		15.
All containers needing preservation have been checked.	☒ Yes ☐ No ☐ N/A	16.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐ Yes ☒ No ☐ N/A	17.
Exceptions <u>VOA</u> , coliform, TOC, O&G, WI-DRO (water), Phenolics	☒ Yes ☐ No	18.
Trip Blank present:	☒ Yes ☐ No ☐ N/A	19.
Pace Trip Blank lot # (if purchased): <u>Covered</u>		20.
Headspace in VOA vials (>6mm):	☐ Yes ☒ No ☐ N/A	21.
Project sampled in USDA Regulated Area:	☐ Yes ☐ No ☒ N/A	22.

Client Notification/ Resolution:

Copy COC to Client? Y ☒ N ☐

Field Data Required? Y ☒ N ☐

Person Contacted: _____

Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____

Date: 8/31/13

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**

Page : 1 Of 1

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX Drinking Water Water Waste Water Product Sol/Solid Oil Wipe Air Tissue	CODE DW WT WW P SL OL WP AR OT TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED				SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives										Analyses Test Y/N	Requested Analysis Filtered (Y/N)														Residual Chlorine (Y/N)
						START		END				Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	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						
						DATE	TIME	DATE	TIME																												
1	316-120 2(BP24) BP3U, 3(A635)	OT	G			10/30/13	10/11				14	10	4	1	0	2(A644) BP3U	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	2(BP35), 5(PG94)			
2	TRIP BLANK 2(DG94)TB										2	2																									
3																																					
4																																					
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	Paul Linscott / FEI	10-30-13	1:50pm	Demetrius Martin	10-30-13	1:50pm	
SITE ADDRESS: BRIDGETON LF				Shirley Mck / PRSI	10/30/13	0136	1.2 y y y
13570 ST. CHARLES ROCK RD							
BRIDGETON MO 63044							

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	SIGNATURE of SAMPLER:				
WILLIAM ABERNATHY	[Signature]				

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



REPORT OF LABORATORY ANALYSIS

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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

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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

REPORT OF LABORATORY ANALYSIS

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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
		EPA 624 Low	JKL	25
60156648002	TRIP BLANK			

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
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

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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
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		

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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

Analysis Method: EPA 245.1

QC Batch 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	Analysis Method:	EPA 245.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MPRP/24969 Analysis Method: EPA 200.7
QC Batch 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	

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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	MSD	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	Max	
			Spike Conc.	Spike Conc.						RPD	RPD
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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121
Pace Project No.: 60156648

QC Batch: MPRP/24968 Analysis Method: EPA 200.7
QC Batch 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	

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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	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	

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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	

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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			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121

Pace Project No.: 60156648

QC Batch: OEXT/41282

Analysis Method: EPA 625

QC Batch 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	Analysis Method:	EPA 1664A
QC Batch 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	

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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	

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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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121

Pace Project No.: 60156648

QC Batch: WET/44374 Analysis Method: SM 4500-H+B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121

Pace Project No.: 60156648

QC Batch: WET/44363

Analysis Method: SM 5210B

QC Batch 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

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121

Pace Project No.: 60156648

QC Batch:	WETA/26972	Analysis Method:	EPA 350.1
QC Batch 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	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-121

Pace Project No.: 60156648

QC Batch:	WETA/26967	Analysis Method:	EPA 410.4
QC Batch 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	

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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



Client Name: Barr Engineering

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

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

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

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

Thermometer Used: T-239 / T-194

Type of Ice: Wet Blue ☐ None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.6

Date and initials of person examining contents: 11/11/13 [Signature]

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. <u>Boo, ph</u>
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.
Pace containers used:	☒ Yes ☐ No ☐ N/A	10.
Containers intact:	☒ Yes ☐ No ☐ N/A	11.
Unpreserved 5035A soils frozen w/in 48hrs?	☐ Yes ☐ No ☒ N/A	12.
Filtered volume received for dissolved tests?	☐ Yes ☐ No ☒ N/A	13.
Sample labels match COC:	☒ Yes ☐ No ☐ N/A	BP3N initial ph 4.0, added 3.5ml final 3.0 BP3S, initial ph 4.0, added 2.5ml final 3.0 + 1.0 2.0ml
Includes date/time/ID/analyses Matrix: <u>W</u>		
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 <u>[Signature]</u> Lot # of added preservative <u>12513-10-9 - H2O?</u> <u>13520-4-4 - H2O?</u>
Trip Blank present:	☒ Yes ☐ No ☐ N/A	
Pace Trip Blank lot # (if purchased): <u>Covered</u>		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: [Signature]

Date: 11/11/13

