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

August 08, 2013

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

RE: Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-029
Pace Project No.: 60150122

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 316-029
Pace Project No.: 60150122

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150122001	**316-029**	Water	08/01/13 07:13	08/02/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150122001	**316-029**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

Sample: 316-029 **Lab ID: 60150122001** Collected: 08/01/13 07:13 Received: 08/02/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**28300**	mg/L	2.0	1	08/02/13 10:09	08/07/13 14:09		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

QC Batch: WET/42679
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150122001

METHOD BLANK: 1229820 Matrix: Water
Associated Lab Samples: 60150122001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/07/13 13:40	

LABORATORY CONTROL SAMPLE: 1229821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1229822

Parameter	Units	60150047001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	710	744	5	17	

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QUALIFIERS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-029
Pace Project No.: 60150122

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150122001	**316-029**	SM 5210B	WET/42679	SM 5210B	WET/42764

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www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150122

60150122

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.3

Date and initials of person examining contents: KE 8/2/13

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses Test: BOD SM 5210B											Residual Chlorine (Y/N)	6/15/22
1	316-029	OT	G	8/1/13	713	—	—		1	1								X	1 (BP2U)											01
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	Hunter King	8/1/13	1527	Cindy Weiss	8/1/13	1525				
SITE ADDRESS BRIDGETON LF	Emily Weiss	8/1/13	1615	LH 554	8/1/13	1615				
13570 ST. CHARLES ROCK RD				Kyle Gr / PASI	8/2/13	130	5.3	N	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/1/13				

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August 09, 2013

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

RE: Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

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

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

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 316-029
Pace Project No.: 60150123

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150123001	**316-029**	Water	08/01/13 07:13	08/02/13 01:30
60150123002	**TRIP BLANK**	Water	08/01/13 07:13	08/02/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150123001	**316-029**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	AJM	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150123002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Sample: 316-029 **Lab ID: 60150123001** Collected: 08/01/13 07:13 Received: 08/02/13 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	**6890**	ug/L	150	2	08/07/13 10:20	08/08/13 16:11	7429-90-5	
Antimony	**37.4**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:11	7440-36-0	
Arsenic	**561**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:11	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/07/13 10:20	08/08/13 16:11	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:29	7440-43-9	D3
Chromium	**223**	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:29	7440-47-3	
Cobalt	**48.1**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:11	7440-48-4	
Copper	ND	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:11	7440-50-8	D3
Iron	**697000**	ug/L	100	2	08/07/13 10:20	08/08/13 16:11	7439-89-6	
Lead	**148**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:11	7439-92-1	
Nickel	**120**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:11	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/07/13 10:20	08/08/13 16:29	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/07/13 10:20	08/08/13 16:11	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/07/13 10:20	08/08/13 16:29	7440-28-0	D3
Zinc	**10300**	ug/L	1000	20	08/07/13 10:20	08/08/13 17:02	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2900**	ug/L	150	2	08/05/13 16:30	08/06/13 18:44	7429-90-5	
Antimony, Dissolved	**27.6**	ug/L	20.0	2	08/05/13 16:30	08/06/13 18:44	7440-36-0	
Arsenic, Dissolved	**429**	ug/L	20.0	2	08/05/13 16:30	08/06/13 18:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/05/13 16:30	08/06/13 19:26	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:44	7440-43-9	D3
Chromium, Dissolved	**206**	ug/L	25.0	5	08/05/13 16:30	08/06/13 19:26	7440-47-3	
Cobalt, Dissolved	**34.8**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:44	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/05/13 16:30	08/07/13 11:13	7440-50-8	D3
Iron, Dissolved	**417000**	ug/L	100	2	08/05/13 16:30	08/06/13 18:44	7439-89-6	
Lead, Dissolved	**58.4**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:44	7439-92-1	
Nickel, Dissolved	**108**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/05/13 16:30	08/06/13 19:26	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/05/13 16:30	08/06/13 18:44	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/05/13 16:30	08/06/13 19:26	7440-28-0	D3
Zinc, Dissolved	**8060**	ug/L	1000	20	08/05/13 16:30	08/06/13 18:54	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**3.7**	ug/L	0.20	1	08/02/13 09:30	08/02/13 12:56	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	08/07/13 08:30	08/07/13 11:24	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/02/13 00:00	08/04/13 22:44	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Sample: 316-029 **Lab ID: 60150123001** Collected: 08/01/13 07:13 Received: 08/02/13 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	20	08/02/13 00:00	08/04/13 22:44	87-86-5	
Phenol	**12500**	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/02/13 00:00	08/04/13 22:44	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/02/13 00:00	08/04/13 22:44	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/02/13 00:00	08/04/13 22:44	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/02/13 00:00	08/04/13 22:44	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/02/13 00:00	08/04/13 22:44	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/02/13 00:00	08/04/13 22:44	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/02/13 00:00	08/04/13 22:44	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/05/13 14:50	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/05/13 14:50	75-27-4	
Bromoform	ND	ug/L	200	200		08/05/13 14:50	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/05/13 14:50	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/05/13 14:50	56-23-5	
Chloroethane	ND	ug/L	200	200		08/05/13 14:50	75-00-3	
Chloroform	ND	ug/L	200	200		08/05/13 14:50	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/05/13 14:50	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/05/13 14:50	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/05/13 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/05/13 14:50	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/05/13 14:50	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/05/13 14:50	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/05/13 14:50	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/05/13 14:50	127-18-4	
Toluene	ND	ug/L	200	200		08/05/13 14:50	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/05/13 14:50	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/05/13 14:50	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/05/13 14:50	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/05/13 14:50	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/05/13 14:50	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	88	%	80-120	200		08/05/13 14:50	1868-53-7	D3
4-Bromofluorobenzene (S)	97	%	80-120	200		08/05/13 14:50	460-00-4	
Toluene-d8 (S)	92	%	80-120	200		08/05/13 14:50	2037-26-5	
1,2-Dichloroethane-d4 (S)	90	%	80-120	200		08/05/13 14:50	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/05/13 14:50		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**115**	mg/L	5.0	1		08/05/13 07:46		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/07/13 07:29		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Sample: 316-029 **Lab ID: 60150123001** Collected: 08/01/13 07:13 Received: 08/02/13 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	**2080**	mg/L	5.0	1		08/06/13 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.0**	Std. Units	0.10	1		08/03/13 12:00		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**560**	mg/L	20.0	200		08/06/13 15:37	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**69400**	mg/L	5000	500		08/06/13 09:09		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Sample: TRIP BLANK **Lab ID: 60150123002** Collected: 08/01/13 07:13 Received: 08/02/13 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		08/05/13 15:11	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/05/13 15:11	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/05/13 15:11	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/05/13 15:11	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/05/13 15:11	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/05/13 15:11	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/05/13 15:11	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/05/13 15:11	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/05/13 15:11	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/13 15:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/13 15:11	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/05/13 15:11	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/05/13 15:11	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/05/13 15:11	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/05/13 15:11	127-18-4	
Toluene	ND	ug/L	1.0	1		08/05/13 15:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/05/13 15:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/05/13 15:11	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/05/13 15:11	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/05/13 15:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/05/13 15:11	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	87	%	80-120	1		08/05/13 15:11	1868-53-7	
4-Bromofluorobenzene (S)	100	%	80-120	1		08/05/13 15:11	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		08/05/13 15:11	2037-26-5	
1,2-Dichloroethane-d4 (S)	87	%	80-120	1		08/05/13 15:11	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/05/13 15:11		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: MERP/7563
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150123001

METHOD BLANK: 1229823 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/02/13 12:43	

LABORATORY CONTROL SAMPLE: 1229824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	5.6	112	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1229825 1229826

Parameter	Units	60150002001 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	4.6	93	92	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: MERP/7576
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150123001

METHOD BLANK: 1231932 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/13 11:17	

LABORATORY CONTROL SAMPLE: 1231933

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231934 1231935

Parameter	Units	60150362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.8	4.0	77	80	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: MPRP/23748
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150123001

METHOD BLANK: 1232008 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/08/13 14:51	
Antimony	ug/L	ND	10.0	08/08/13 14:51	
Arsenic	ug/L	ND	10.0	08/08/13 14:51	
Beryllium	ug/L	ND	1.0	08/08/13 14:51	
Cadmium	ug/L	ND	5.0	08/08/13 14:51	
Chromium	ug/L	ND	5.0	08/08/13 14:51	
Cobalt	ug/L	ND	5.0	08/08/13 14:51	
Copper	ug/L	ND	10.0	08/08/13 14:51	
Iron	ug/L	ND	50.0	08/08/13 14:51	
Lead	ug/L	ND	5.0	08/08/13 14:51	
Nickel	ug/L	ND	5.0	08/08/13 14:51	
Selenium	ug/L	ND	15.0	08/08/13 14:51	
Silver	ug/L	ND	7.0	08/08/13 14:51	
Thallium	ug/L	ND	20.0	08/08/13 14:51	
Zinc	ug/L	ND	50.0	08/08/13 14:51	

LABORATORY CONTROL SAMPLE: 1232009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	971	97	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	960	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	995	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	499	100	85-115	
Thallium	ug/L	1000	988	99	85-115	
Zinc	ug/L	1000	991	99	85-115	

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	123	10000	10300	102	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	989	98	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	938	94	70-130	
Cobalt	ug/L	ND	1000	981	98	70-130	
Copper	ug/L	ND	1000	978	98	70-130	
Iron	ug/L	91.4	10000	9780	97	70-130	
Lead	ug/L	ND	1000	973	97	70-130	
Nickel	ug/L	ND	1000	991	99	70-130	
Selenium	ug/L	ND	1000	1000	100	70-130	
Silver	ug/L	ND	500	499	100	70-130	
Thallium	ug/L	ND	1000	974	97	70-130	
Zinc	ug/L	ND	1000	949	95	70-130	

MATRIX SPIKE SAMPLE: 1232011

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	
Arsenic	ug/L	18.7	1000	1010	99	70-130	
Beryllium	ug/L	ND	1000	993	99	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	952	95	70-130	
Cobalt	ug/L	ND	1000	991	99	70-130	
Copper	ug/L	ND	1000	982	98	70-130	
Iron	ug/L	2080	10000	11700	97	70-130	
Lead	ug/L	ND	1000	977	97	70-130	
Nickel	ug/L	ND	1000	1000	100	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	504	101	70-130	
Thallium	ug/L	ND	1000	976	98	70-130	
Zinc	ug/L	ND	1000	968	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: MPRP/23720
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150123001

METHOD BLANK: 1231216 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/06/13 18:00	
Antimony, Dissolved	ug/L	ND	10.0	08/06/13 18:00	
Arsenic, Dissolved	ug/L	ND	10.0	08/06/13 18:00	
Beryllium, Dissolved	ug/L	ND	1.0	08/06/13 18:00	
Cadmium, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Chromium, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Cobalt, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Copper, Dissolved	ug/L	ND	10.0	08/07/13 10:33	
Iron, Dissolved	ug/L	ND	50.0	08/06/13 18:00	
Lead, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Nickel, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Selenium, Dissolved	ug/L	ND	15.0	08/06/13 18:00	
Silver, Dissolved	ug/L	ND	7.0	08/06/13 18:00	
Thallium, Dissolved	ug/L	ND	20.0	08/06/13 18:00	
Zinc, Dissolved	ug/L	ND	50.0	08/06/13 18:00	

LABORATORY CONTROL SAMPLE: 1231217

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	932	93	85-115	
Arsenic, Dissolved	ug/L	1000	890	89	85-115	
Beryllium, Dissolved	ug/L	1000	983	98	85-115	
Cadmium, Dissolved	ug/L	1000	936	94	85-115	
Chromium, Dissolved	ug/L	1000	988	99	85-115	
Cobalt, Dissolved	ug/L	1000	974	97	85-115	
Copper, Dissolved	ug/L	1000	960	96	85-115	
Iron, Dissolved	ug/L	10000	9700	97	85-115	
Lead, Dissolved	ug/L	1000	963	96	85-115	
Nickel, Dissolved	ug/L	1000	995	99	85-115	
Selenium, Dissolved	ug/L	1000	921	92	85-115	
Silver, Dissolved	ug/L	500	481	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231218 1231219

Parameter	Units	60150136001 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	83.3	10000	10000	10200	10000	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231218 1231219

Parameter	Units	60150136001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	946	933	95	93	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	915	904	91	90	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	978	963	98	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	944	932	94	93	70-130	1	10	
Chromium, Dissolved	ug/L	1.8J	1000	1000	968	954	97	95	70-130	1	10	
Cobalt, Dissolved	ug/L	50.9	1000	1000	991	976	94	92	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1010	992	101	99	70-130	2	11	
Iron, Dissolved	ug/L	ND	10000	10000	9540	9480	95	95	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	947	930	95	93	70-130	2	10	
Nickel, Dissolved	ug/L	212	1000	1000	1170	1150	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	910	898	91	90	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	493	486	99	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	950	935	95	93	70-130	2	6	
Zinc, Dissolved	ug/L	547	1000	1000	1510	1490	96	94	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: MSV/55359 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150123001, 60150123002

METHOD BLANK: 1231096 Matrix: Water
Associated Lab Samples: 60150123001, 60150123002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,2-Dichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/05/13 11:49	
Benzene	ug/L	ND	1.0	08/05/13 11:49	
Bromodichloromethane	ug/L	ND	1.0	08/05/13 11:49	
Bromoform	ug/L	ND	1.0	08/05/13 11:49	
Bromomethane	ug/L	ND	5.0	08/05/13 11:49	
Carbon tetrachloride	ug/L	ND	1.0	08/05/13 11:49	
Chloroethane	ug/L	ND	1.0	08/05/13 11:49	
Chloroform	ug/L	ND	1.0	08/05/13 11:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Ethylbenzene	ug/L	ND	1.0	08/05/13 11:49	
Methylene chloride	ug/L	ND	1.0	08/05/13 11:49	
Tetrachloroethene	ug/L	ND	1.0	08/05/13 11:49	
Toluene	ug/L	ND	1.0	08/05/13 11:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Trichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Vinyl chloride	ug/L	ND	1.0	08/05/13 11:49	
Xylene (Total)	ug/L	ND	3.0	08/05/13 11:49	
1,2-Dichloroethane-d4 (S)	%	85	80-120	08/05/13 11:49	
4-Bromofluorobenzene (S)	%	101	80-120	08/05/13 11:49	
Toluene-d8 (S)	%	95	80-120	08/05/13 11:49	

LABORATORY CONTROL SAMPLE: 1231097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.4	72	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	22.0	110	59-138	
1,1,2-Trichloroethane	ug/L	20	17.6	88	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	18.8	94	73-129	
Bromodichloromethane	ug/L	20	15.3	76	63-129	
Bromoform	ug/L	20	18.7	93	52-123	
Bromomethane	ug/L	20	23.6	118	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.8	84	42-160	
Chloroform	ug/L	20	14.8	74	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.5	78	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

LABORATORY CONTROL SAMPLE: 1231097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.0	85	66-133	
Methylene chloride	ug/L	20	16.9	85	56-135	
Tetrachloroethene	ug/L	20	18.7	93	64-143	
Toluene	ug/L	20	17.8	89	70-130	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	67-149	
Trichloroethene	ug/L	20	15.1	76	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	56.9	95	67-130	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			92	80-120	

MATRIX SPIKE SAMPLE: 1231098

Parameter	Units	60149923001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2970	74	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3760	94	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3450	86	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3130	78	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3520	88	18-147	
Benzene	ug/L	ND	4000	3760	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3080	77	35-155	
Bromoform	ug/L	ND	4000	3440	86	45-133	
Bromomethane	ug/L	ND	4000	4000	100	10-160	
Carbon tetrachloride	ug/L	ND	4000	3050	76	70-140	
Chloroethane	ug/L	ND	4000	3320	83	14-160	
Chloroform	ug/L	ND	4000	2960	74	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3190	80	19-160	
Ethylbenzene	ug/L	ND	4000	3430	86	37-154	
Methylene chloride	ug/L	ND	4000	3490	87	15-156	
Tetrachloroethene	ug/L	ND	4000	3620	90	64-148	
Toluene	ug/L	ND	4000	3590	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3540	89	54-156	
Trichloroethene	ug/L	ND	4000	3070	77	71-157	
Vinyl chloride	ug/L	ND	4000	4040	101	10-160	
Xylene (Total)	ug/L	ND	12000	11100	92	12-153	
1,2-Dichloroethane-d4 (S)	%				88	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				93	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: OEXT/39618 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150123001

METHOD BLANK: 1229715 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/04/13 21:00	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/04/13 21:00	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/04/13 21:00	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/04/13 21:00	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/04/13 21:00	
Hexachloroethane	ug/L	ND	5.0	08/04/13 21:00	
Naphthalene	ug/L	ND	5.0	08/04/13 21:00	
Nitrobenzene	ug/L	ND	5.0	08/04/13 21:00	
Pentachlorophenol	ug/L	ND	5.0	08/04/13 21:00	
Phenol	ug/L	ND	5.0	08/04/13 21:00	
2,4,6-Tribromophenol (S)	%	73	39-119	08/04/13 21:00	
2-Fluorobiphenyl (S)	%	75	36-120	08/04/13 21:00	
2-Fluorophenol (S)	%	45	18-120	08/04/13 21:00	
Nitrobenzene-d5 (S)	%	69	32-120	08/04/13 21:00	
Phenol-d6 (S)	%	31	12-120	08/04/13 21:00	
Terphenyl-d14 (S)	%	82	44-120	08/04/13 21:00	

LABORATORY CONTROL SAMPLE: 1229716

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	25.0	50	44-120	
2,4,6-Trichlorophenol	ug/L	50	28.7	57	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	33.9	68	31-147	
Hexachloro-1,3-butadiene	ug/L	50	23.9	48	41-116	
Hexachlorocyclopentadiene	ug/L	100	40.9	41	31-120	
Hexachloroethane	ug/L	50	23.0	46	40-113	
Naphthalene	ug/L	50	26.7	53	48-120	
Nitrobenzene	ug/L	50	26.2	52	47-120	
Pentachlorophenol	ug/L	50	31.5	63	43-127	
Phenol	ug/L	50	11.7	23	15-112	
2,4,6-Tribromophenol (S)	%			61	39-119	
2-Fluorobiphenyl (S)	%			56	36-120	
2-Fluorophenol (S)	%			32	18-120	
Nitrobenzene-d5 (S)	%			50	32-120	
Phenol-d6 (S)	%			22	12-120	
Terphenyl-d14 (S)	%			67	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

MATRIX SPIKE SAMPLE: 1229717

Parameter	Units	60150002001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	34.2	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	37.3	75	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	10.7J	21	27-146	M1
Hexachloro-1,3-butadiene	ug/L	ND	50	32.4	65	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	40.2	40	11-120	
Hexachloroethane	ug/L	ND	50	31.6	63	40-113	
Naphthalene	ug/L	ND	50	34.2	68	32-120	
Nitrobenzene	ug/L	ND	50	34.0	68	35-128	
Pentachlorophenol	ug/L	ND	50	37.2	74	38-133	
Phenol	ug/L	ND	50	14.8	30	13-112	
2,4,6-Tribromophenol (S)	%				70	39-119	
2-Fluorobiphenyl (S)	%				68	36-120	
2-Fluorophenol (S)	%				40	18-120	
Nitrobenzene-d5 (S)	%				63	32-120	
Phenol-d6 (S)	%				28	12-120	
Terphenyl-d14 (S)	%				73	44-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WET/42707
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150123001

METHOD BLANK: 1230904 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/05/13 07:44	

LABORATORY CONTROL SAMPLE: 1230905

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.1	100	78-114	

MATRIX SPIKE SAMPLE: 1230906

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	43.5	45.7	102	78-114	

SAMPLE DUPLICATE: 1230907

Parameter	Units	60149971001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	9.7	9.7	0	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WET/42743 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150123001

METHOD BLANK: 1231879 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/07/13 07:27	

LABORATORY CONTROL SAMPLE: 1231880

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: 1231912

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	22.1	95	64-132	

SAMPLE DUPLICATE: 1231915

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	70.0	51.9	30	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WET/42729
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150123001

METHOD BLANK: 1231368
Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/13 08:29	

SAMPLE DUPLICATE: 1231369

Parameter	Units	60150123001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2080	1960	6	25	

SAMPLE DUPLICATE: 1231370

Parameter	Units	60150132001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	30.0	34.0	12	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WET/42699
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150123001

SAMPLE DUPLICATE: 1230630

Parameter	Units	60150133001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.6	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WETA/25697 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150123001

METHOD BLANK: 1231642 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/06/13 15:27	

LABORATORY CONTROL SAMPLE: 1231643

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

MATRIX SPIKE SAMPLE: 1231644

Parameter	Units	60149908001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	1.7	2	3.5	91	90-110	

MATRIX SPIKE SAMPLE: 1231646

Parameter	Units	60149884006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	17.6	10	25.4	78	90-110	M1

SAMPLE DUPLICATE: 1231645

Parameter	Units	60149948004 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

QC Batch: WETA/25674 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150123001

METHOD BLANK: 1230978 Matrix: Water
Associated Lab Samples: 60150123001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/06/13 08:46	

LABORATORY CONTROL SAMPLE: 1230979

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	46.7	93	90-110	

MATRIX SPIKE SAMPLE: 1230980

Parameter	Units	60149921001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	21.8	50	79.0	114	90-110	M1

MATRIX SPIKE SAMPLE: 1230982

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	12.0	50	61.2	98	90-110	

SAMPLE DUPLICATE: 1230981

Parameter	Units	60149968001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	72.5	76.6	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-029
Pace Project No.: 60150123

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150123001	**316-029**	EPA 200.7	MPRP/23748	EPA 200.7	ICP/18621
60150123001	**316-029**	EPA 200.7	MPRP/23720	EPA 200.7	ICP/18609
60150123001	**316-029**	EPA 245.1	MERP/7563	EPA 245.1	MERC/7520
60150123001	**316-029**	EPA 245.1	MERP/7576	EPA 245.1	MERC/7531
60150123001	**316-029**	EPA 625	OEXT/39618	EPA 625	MSSV/12573
60150123001	**316-029**	EPA 624 Low	MSV/55359		
60150123002	**TRIP BLANK**	EPA 624 Low	MSV/55359		
60150123001	**316-029**	EPA 1664A	WET/42707		
60150123001	**316-029**	EPA 1664A	WET/42743		
60150123001	**316-029**	SM 2540D	WET/42729		
60150123001	**316-029**	SM 4500-H+B	WET/42699		
60150123001	**316-029**	EPA 350.1	WETA/25697		
60150123001	**316-029**	EPA 410.4	WETA/25674		

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Sample Condition Upon Receipt

WO# : 60150123

60150123

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.3

Date and initials of person examining contents: KE 8/2/13

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1. ~~Insufficient amount of ice used~~ by 8/2
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☑Yes ☐No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Initial pH ≈ 5.0. Added 2.5 mL of HNO_3 + H_2SO_4 preservative to each sample and respectively got a final pH ≈ 3.5 and 2.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: KG Lot # of added preservative: 12510
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	2 of 5 316-029
		16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency

State / Location: Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60150123
1	316-029	OT	G	8/1/13	713	—	—		15	19	1	1	2	5 (DG9U)				X	X	X	X	X	X	X	X	X	X	3 (AG1H)		3 (AG1U) METALS LIST total & LF Dis! (Y)
2	TRIP BLANK			—	—	—	—		2	2										2 (DG9U)						X			Al, Sb, As, Be, Cd, Cr, (Y)
3																														Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn
4																														and Mercury
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/1/13	1524		8/1/13	1525				
SITE ADDRESS: BRIDGETON LF	Emily Hawkes	8/1/13	1615	SSA	8/1/13	1615				
13570 ST. CHARLES ROCK RD				Kyle S / PASI	8/2/13	130	5.3	N	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/1/13				

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August 08, 2013

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

RE: Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

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 316-030
Pace Project No.: 60150249

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150249001	**316-030**	Water	08/02/13 07:58	08/03/13 01:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150249001	**316-030**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

Sample: 316-030 **Lab ID: 60150249001** Collected: 08/02/13 07:58 Received: 08/03/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29300**	mg/L	2.0	1	08/03/13 12:06	08/08/13 10:34		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

QC Batch: WET/42702 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150249001

METHOD BLANK: 1230726 Matrix: Water
Associated Lab Samples: 60150249001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/08/13 10:21	

LABORATORY CONTROL SAMPLE: 1230727

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

SAMPLE DUPLICATE: 1230728

Parameter	Units	60150176001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.6	5.3	5	17	

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QUALIFIERS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-030
Pace Project No.: 60150249

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150249001	**316-030**	SM 5210B	WET/42702	SM 5210B	WET/42784

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www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60150249

60150249

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JAS 8/3/13 TST

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☐Yes ☑No ☐N/A	BP3N + BP3S not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: VM Lot # of added preservative: 12510-1-3
Trip Blank present: Pace Trip Blank lot # (if purchased): n/a	☐Yes ☐No ☑N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/5/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Other OT; Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60150249
1	316-030	OT	G	8/2/13	758				1	1								X			(BR2W) 001
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/2/13	1625	BH 554	8/2/13	1625				
SITE ADDRESS: BRIDGETON LF				Pace	8/2/13	115	29	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	Hunter King
SIGNATURE of SAMPLER:	Hunter King
DATE Signed:	8/2/13

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Lenexa, KS 66219
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August 14, 2013

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

RE: Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

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

Amended report revised 08/14/13 to correct the volatiles reporting list.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

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 316-030
Pace Project No.: 60150250

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150250001	**316-030**	Water	08/02/13 07:58	08/03/13 01:15
60150250002	**TRIP BLANK**	Water	08/02/13 08:00	08/03/13 01:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150250001	**316-030**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	AJM	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150250002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Sample: 316-030 **Lab ID: 60150250001** Collected: 08/02/13 07:58 Received: 08/03/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4030**	ug/L	150	2	08/07/13 10:20	08/08/13 16:15	7429-90-5	
Antimony	**34.0**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:15	7440-36-0	
Arsenic	**577**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:15	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/07/13 10:20	08/08/13 16:15	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:15	7440-43-9	D3
Chromium	**220**	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:32	7440-47-3	
Cobalt	**50.4**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:15	7440-48-4	
Copper	ND	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:15	7440-50-8	D3
Iron	**520000**	ug/L	100	2	08/07/13 10:20	08/08/13 16:15	7439-89-6	
Lead	**66.1**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:15	7439-92-1	
Nickel	**127**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:15	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/07/13 10:20	08/08/13 16:32	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/07/13 10:20	08/08/13 16:15	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/07/13 10:20	08/08/13 16:32	7440-28-0	D3
Zinc	**10200**	ug/L	1000	20	08/07/13 10:20	08/08/13 17:05	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3040**	ug/L	150	2	08/05/13 16:30	08/06/13 18:48	7429-90-5	
Antimony, Dissolved	**24.2**	ug/L	20.0	2	08/05/13 16:30	08/06/13 18:48	7440-36-0	
Arsenic, Dissolved	**466**	ug/L	20.0	2	08/05/13 16:30	08/06/13 18:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/05/13 16:30	08/06/13 19:30	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:48	7440-43-9	D3
Chromium, Dissolved	**224**	ug/L	25.0	5	08/05/13 16:30	08/06/13 19:30	7440-47-3	
Cobalt, Dissolved	**41.3**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:48	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/05/13 16:30	08/07/13 11:16	7440-50-8	D3
Iron, Dissolved	**450000**	ug/L	100	2	08/05/13 16:30	08/06/13 18:48	7439-89-6	
Lead, Dissolved	**49.7**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:48	7439-92-1	
Nickel, Dissolved	**120**	ug/L	10.0	2	08/05/13 16:30	08/06/13 18:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/05/13 16:30	08/06/13 19:30	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/05/13 16:30	08/06/13 18:48	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/05/13 16:30	08/06/13 19:30	7440-28-0	D3
Zinc, Dissolved	**8920**	ug/L	1000	20	08/05/13 16:30	08/07/13 11:30	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**2.8**	ug/L	0.20	1	08/05/13 11:00	08/06/13 10:39	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	08/07/13 08:30	08/07/13 11:26	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/09/13 00:00	08/12/13 09:56	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Sample: 316-030 **Lab ID: 60150250001** Collected: 08/02/13 07:58 Received: 08/03/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	87-86-5	
Phenol	**13200**	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 09:56	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/09/13 00:00	08/12/13 09:56	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/09/13 00:00	08/12/13 09:56	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/09/13 00:00	08/12/13 09:56	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/09/13 00:00	08/12/13 09:56	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/09/13 00:00	08/12/13 09:56	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/09/13 00:00	08/12/13 09:56	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/05/13 15:32	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/05/13 15:32	75-27-4	
Bromoform	ND	ug/L	200	200		08/05/13 15:32	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/05/13 15:32	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/05/13 15:32	56-23-5	
Chloroethane	ND	ug/L	200	200		08/05/13 15:32	75-00-3	
Chloroform	ND	ug/L	200	200		08/05/13 15:32	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/05/13 15:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/05/13 15:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/05/13 15:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/05/13 15:32	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/05/13 15:32	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/05/13 15:32	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/05/13 15:32	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/05/13 15:32	127-18-4	
Toluene	ND	ug/L	200	200		08/05/13 15:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/05/13 15:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/05/13 15:32	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/05/13 15:32	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/05/13 15:32	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/05/13 15:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	89	%	80-120	200		08/05/13 15:32	1868-53-7	D3
4-Bromofluorobenzene (S)	102	%	80-120	200		08/05/13 15:32	460-00-4	
Toluene-d8 (S)	94	%	80-120	200		08/05/13 15:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	82	%	80-120	200		08/05/13 15:32	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/05/13 15:32		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**688**	mg/L	5.0	1		08/06/13 07:38		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/07/13 07:32		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Sample: 316-030 **Lab ID: 60150250001** Collected: 08/02/13 07:58 Received: 08/03/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1420**	mg/L	5.0	1		08/06/13 15:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/03/13 12:00		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**685**	mg/L	20.0	200		08/07/13 14:30	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56400**	mg/L	5000	500		08/06/13 09:11		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Sample: TRIP BLANK **Lab ID: 60150250002** Collected: 08/02/13 08:00 Received: 08/03/13 01:15 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		08/05/13 15:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/05/13 15:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/05/13 15:54	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/05/13 15:54	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/05/13 15:54	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/05/13 15:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/05/13 15:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/05/13 15:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/05/13 15:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/13 15:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/05/13 15:54	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/05/13 15:54	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/05/13 15:54	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/05/13 15:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/05/13 15:54	127-18-4	
Toluene	ND	ug/L	1.0	1		08/05/13 15:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/05/13 15:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/05/13 15:54	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/05/13 15:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/05/13 15:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/05/13 15:54	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	88	%	80-120	1		08/05/13 15:54	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/05/13 15:54	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		08/05/13 15:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	84	%	80-120	1		08/05/13 15:54	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/05/13 15:54		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: MERP/7569
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150250001

METHOD BLANK: 1231064 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/06/13 10:25	

LABORATORY CONTROL SAMPLE: 1231065

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.8	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231066 1231067

Parameter	Units	60150186001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury	ug/L	ND	5	5	5.6	5.4	111	108	70-130	2	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: MERP/7576
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150250001

METHOD BLANK: 1231932 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/13 11:17	

LABORATORY CONTROL SAMPLE: 1231933

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231934 1231935

Parameter	Units	60150362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.8	4.0	77	80	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: MPRP/23748
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150250001

METHOD BLANK: 1232008 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/08/13 14:51	
Antimony	ug/L	ND	10.0	08/08/13 14:51	
Arsenic	ug/L	ND	10.0	08/08/13 14:51	
Beryllium	ug/L	ND	1.0	08/08/13 14:51	
Cadmium	ug/L	ND	5.0	08/08/13 14:51	
Chromium	ug/L	ND	5.0	08/08/13 14:51	
Cobalt	ug/L	ND	5.0	08/08/13 14:51	
Copper	ug/L	ND	10.0	08/08/13 14:51	
Iron	ug/L	ND	50.0	08/08/13 14:51	
Lead	ug/L	ND	5.0	08/08/13 14:51	
Nickel	ug/L	ND	5.0	08/08/13 14:51	
Selenium	ug/L	ND	15.0	08/08/13 14:51	
Silver	ug/L	ND	7.0	08/08/13 14:51	
Thallium	ug/L	ND	20.0	08/08/13 14:51	
Zinc	ug/L	ND	50.0	08/08/13 14:51	

LABORATORY CONTROL SAMPLE: 1232009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	971	97	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	960	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	995	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	499	100	85-115	
Thallium	ug/L	1000	988	99	85-115	
Zinc	ug/L	1000	991	99	85-115	

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	123	10000	10300	102	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	989	98	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	938	94	70-130	
Cobalt	ug/L	ND	1000	981	98	70-130	
Copper	ug/L	ND	1000	978	98	70-130	
Iron	ug/L	91.4	10000	9780	97	70-130	
Lead	ug/L	ND	1000	973	97	70-130	
Nickel	ug/L	ND	1000	991	99	70-130	
Selenium	ug/L	ND	1000	1000	100	70-130	
Silver	ug/L	ND	500	499	100	70-130	
Thallium	ug/L	ND	1000	974	97	70-130	
Zinc	ug/L	ND	1000	949	95	70-130	

MATRIX SPIKE SAMPLE: 1232011

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	
Arsenic	ug/L	18.7	1000	1010	99	70-130	
Beryllium	ug/L	ND	1000	993	99	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	952	95	70-130	
Cobalt	ug/L	ND	1000	991	99	70-130	
Copper	ug/L	ND	1000	982	98	70-130	
Iron	ug/L	2080	10000	11700	97	70-130	
Lead	ug/L	ND	1000	977	97	70-130	
Nickel	ug/L	ND	1000	1000	100	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	504	101	70-130	
Thallium	ug/L	ND	1000	976	98	70-130	
Zinc	ug/L	ND	1000	968	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: MPRP/23720
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150250001

METHOD BLANK: 1231216 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/06/13 18:00	
Antimony, Dissolved	ug/L	ND	10.0	08/06/13 18:00	
Arsenic, Dissolved	ug/L	ND	10.0	08/06/13 18:00	
Beryllium, Dissolved	ug/L	ND	1.0	08/06/13 18:00	
Cadmium, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Chromium, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Cobalt, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Copper, Dissolved	ug/L	ND	10.0	08/07/13 10:33	
Iron, Dissolved	ug/L	ND	50.0	08/06/13 18:00	
Lead, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Nickel, Dissolved	ug/L	ND	5.0	08/06/13 18:00	
Selenium, Dissolved	ug/L	ND	15.0	08/06/13 18:00	
Silver, Dissolved	ug/L	ND	7.0	08/06/13 18:00	
Thallium, Dissolved	ug/L	ND	20.0	08/06/13 18:00	
Zinc, Dissolved	ug/L	ND	50.0	08/06/13 18:00	

LABORATORY CONTROL SAMPLE: 1231217

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	932	93	85-115	
Arsenic, Dissolved	ug/L	1000	890	89	85-115	
Beryllium, Dissolved	ug/L	1000	983	98	85-115	
Cadmium, Dissolved	ug/L	1000	936	94	85-115	
Chromium, Dissolved	ug/L	1000	988	99	85-115	
Cobalt, Dissolved	ug/L	1000	974	97	85-115	
Copper, Dissolved	ug/L	1000	960	96	85-115	
Iron, Dissolved	ug/L	10000	9700	97	85-115	
Lead, Dissolved	ug/L	1000	963	96	85-115	
Nickel, Dissolved	ug/L	1000	995	99	85-115	
Selenium, Dissolved	ug/L	1000	921	92	85-115	
Silver, Dissolved	ug/L	500	481	96	85-115	
Thallium, Dissolved	ug/L	1000	960	96	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231218 1231219

Parameter	Units	60150136001 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	83.3	10000	10000	10200	10000	101	100	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231218 1231219

Parameter	Units	60150136001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	946	933	95	93	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	915	904	91	90	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	978	963	98	96	70-130	1	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	944	932	94	93	70-130	1	10	
Chromium, Dissolved	ug/L	1.8J	1000	1000	968	954	97	95	70-130	1	10	
Cobalt, Dissolved	ug/L	50.9	1000	1000	991	976	94	92	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1010	992	101	99	70-130	2	11	
Iron, Dissolved	ug/L	ND	10000	10000	9540	9480	95	95	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	947	930	95	93	70-130	2	10	
Nickel, Dissolved	ug/L	212	1000	1000	1170	1150	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	910	898	91	90	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	493	486	99	97	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	950	935	95	93	70-130	2	6	
Zinc, Dissolved	ug/L	547	1000	1000	1510	1490	96	94	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: MSV/55359 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150250001, 60150250002

METHOD BLANK: 1231096 Matrix: Water
Associated Lab Samples: 60150250001, 60150250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,2-Dichloroethane	ug/L	ND	1.0	08/05/13 11:49	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/05/13 11:49	
Benzene	ug/L	ND	1.0	08/05/13 11:49	
Bromodichloromethane	ug/L	ND	1.0	08/05/13 11:49	
Bromoform	ug/L	ND	1.0	08/05/13 11:49	
Bromomethane	ug/L	ND	5.0	08/05/13 11:49	
Carbon tetrachloride	ug/L	ND	1.0	08/05/13 11:49	
Chloroethane	ug/L	ND	1.0	08/05/13 11:49	
Chloroform	ug/L	ND	1.0	08/05/13 11:49	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Ethylbenzene	ug/L	ND	1.0	08/05/13 11:49	
Methylene chloride	ug/L	ND	1.0	08/05/13 11:49	
Tetrachloroethene	ug/L	ND	1.0	08/05/13 11:49	
Toluene	ug/L	ND	1.0	08/05/13 11:49	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Trichloroethene	ug/L	ND	1.0	08/05/13 11:49	
Vinyl chloride	ug/L	ND	1.0	08/05/13 11:49	
Xylene (Total)	ug/L	ND	3.0	08/05/13 11:49	
1,2-Dichloroethane-d4 (S)	%	85	80-120	08/05/13 11:49	
4-Bromofluorobenzene (S)	%	101	80-120	08/05/13 11:49	
Toluene-d8 (S)	%	95	80-120	08/05/13 11:49	

LABORATORY CONTROL SAMPLE: 1231097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.4	72	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	22.0	110	59-138	
1,1,2-Trichloroethane	ug/L	20	17.6	88	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	19.2	96	68-124	
Benzene	ug/L	20	18.8	94	73-129	
Bromodichloromethane	ug/L	20	15.3	76	63-129	
Bromoform	ug/L	20	18.7	93	52-123	
Bromomethane	ug/L	20	23.6	118	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.8	84	42-160	
Chloroform	ug/L	20	14.8	74	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.5	78	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

LABORATORY CONTROL SAMPLE: 1231097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.0	85	66-133	
Methylene chloride	ug/L	20	16.9	85	56-135	
Tetrachloroethene	ug/L	20	18.7	93	64-143	
Toluene	ug/L	20	17.8	89	70-130	
trans-1,2-Dichloroethene	ug/L	20	17.3	86	67-149	
Trichloroethene	ug/L	20	15.1	76	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	56.9	95	67-130	
1,2-Dichloroethane-d4 (S)	%			94	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			92	80-120	

MATRIX SPIKE SAMPLE: 1231098

Parameter	Units	60149923001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2970	74	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3760	94	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3450	86	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3130	78	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3520	88	18-147	
Benzene	ug/L	ND	4000	3760	94	37-151	
Bromodichloromethane	ug/L	ND	4000	3080	77	35-155	
Bromoform	ug/L	ND	4000	3440	86	45-133	
Bromomethane	ug/L	ND	4000	4000	100	10-160	
Carbon tetrachloride	ug/L	ND	4000	3050	76	70-140	
Chloroethane	ug/L	ND	4000	3320	83	14-160	
Chloroform	ug/L	ND	4000	2960	74	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3190	80	19-160	
Ethylbenzene	ug/L	ND	4000	3430	86	37-154	
Methylene chloride	ug/L	ND	4000	3490	87	15-156	
Tetrachloroethene	ug/L	ND	4000	3620	90	64-148	
Toluene	ug/L	ND	4000	3590	90	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3540	89	54-156	
Trichloroethene	ug/L	ND	4000	3070	77	71-157	
Vinyl chloride	ug/L	ND	4000	4040	101	10-160	
Xylene (Total)	ug/L	ND	12000	11100	92	12-153	
1,2-Dichloroethane-d4 (S)	%				88	80-120	
4-Bromofluorobenzene (S)	%				97	80-120	
Toluene-d8 (S)	%				93	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: OEXT/39759 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150250001

METHOD BLANK: 1233568 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/12/13 09:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/12/13 09:14	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachloroethane	ug/L	ND	5.0	08/12/13 09:14	
Naphthalene	ug/L	ND	5.0	08/12/13 09:14	
Nitrobenzene	ug/L	ND	5.0	08/12/13 09:14	
Pentachlorophenol	ug/L	ND	5.0	08/12/13 09:14	
Phenol	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Tribromophenol (S)	%	76	39-119	08/12/13 09:14	
2-Fluorobiphenyl (S)	%	76	36-120	08/12/13 09:14	
2-Fluorophenol (S)	%	43	18-120	08/12/13 09:14	
Nitrobenzene-d5 (S)	%	75	32-120	08/12/13 09:14	
Phenol-d6 (S)	%	29	12-120	08/12/13 09:14	
Terphenyl-d14 (S)	%	75	44-120	08/12/13 09:14	

LABORATORY CONTROL SAMPLE: 1233569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.2	80	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.7	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	31-120	
Hexachloroethane	ug/L	50	39.8	80	40-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	42.5	85	47-120	
Pentachlorophenol	ug/L	50	46.4	93	43-127	
Phenol	ug/L	50	16.8	34	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			85	36-120	
2-Fluorophenol (S)	%			49	18-120	
Nitrobenzene-d5 (S)	%			80	32-120	
Phenol-d6 (S)	%			33	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

MATRIX SPIKE SAMPLE: 1233570

Parameter	Units	60150323001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.3	67	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	38.1	76	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	6.7J	13	27-146	M1
Hexachloro-1,3-butadiene	ug/L	ND	50	32.5	65	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	23.3	23	11-120	
Hexachloroethane	ug/L	ND	50	30.5	61	40-113	
Naphthalene	ug/L	ND	50	34.3	69	32-120	
Nitrobenzene	ug/L	ND	50	35.2	70	35-128	
Pentachlorophenol	ug/L	ND	50	40.1	80	38-133	
Phenol	ug/L	ND	50	15.1	30	13-112	
2,4,6-Tribromophenol (S)	%				77	39-119	
2-Fluorobiphenyl (S)	%				72	36-120	
2-Fluorophenol (S)	%				41	18-120	
Nitrobenzene-d5 (S)	%				66	32-120	
Phenol-d6 (S)	%				29	12-120	
Terphenyl-d14 (S)	%				92	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: WET/42723 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150250001

METHOD BLANK: 1231303 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/06/13 07:31	

LABORATORY CONTROL SAMPLE: 1231304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.8	100	78-114	

MATRIX SPIKE SAMPLE: 1231305

Parameter	Units	60150289001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.8	43.3	98	78-114	

SAMPLE DUPLICATE: 1231306

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	518	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: WET/42743 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150250001

METHOD BLANK: 1231879 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/07/13 07:27	

LABORATORY CONTROL SAMPLE: 1231880

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: 1231912

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	22.1	95	64-132	

SAMPLE DUPLICATE: 1231915

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	70.0	51.9	30	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: WET/42735 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150250001

METHOD BLANK: 1231637 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/13 15:46	

SAMPLE DUPLICATE: 1231638

Parameter	Units	60150016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	75.0	69.0	8	25	

SAMPLE DUPLICATE: 1231639

Parameter	Units	60150153001 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 316-030
Pace Project No.: 60150250

QC Batch: WET/42699
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150250001

SAMPLE DUPLICATE: 1230630

Parameter	Units	60150133001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.7	7.6	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: WETA/25712 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150250001

METHOD BLANK: 1232218 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/07/13 14:22	

LABORATORY CONTROL SAMPLE: 1232219

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

MATRIX SPIKE SAMPLE: 1232220

Parameter	Units	60149918006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.3	111	90-110	M1

MATRIX SPIKE SAMPLE: 1232222

Parameter	Units	60150017002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1232221

Parameter	Units	60149943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	0.11	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

QC Batch: WETA/25683 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150250001

METHOD BLANK: 1231118 Matrix: Water
Associated Lab Samples: 60150250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/06/13 09:10	

LABORATORY CONTROL SAMPLE: 1231119

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	51.8	104	90-110	

MATRIX SPIKE SAMPLE: 1231120

Parameter	Units	60150289001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	80.0	50	104	48	90-110	M1

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QUALIFIERS

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-030
Pace Project No.: 60150250

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150250001	**316-030**	EPA 200.7	MPRP/23748	EPA 200.7	ICP/18621
60150250001	**316-030**	EPA 200.7	MPRP/23720	EPA 200.7	ICP/18609
60150250001	**316-030**	EPA 245.1	MERP/7569	EPA 245.1	MERC/7527
60150250001	**316-030**	EPA 245.1	MERP/7576	EPA 245.1	MERC/7531
60150250001	**316-030**	EPA 625	OEXT/39759	EPA 625	MSSV/12606
60150250001	**316-030**	EPA 624 Low	MSV/55359		
60150250002	**TRIP BLANK**	EPA 624 Low	MSV/55359		
60150250001	**316-030**	EPA 1664A	WET/42723		
60150250001	**316-030**	EPA 1664A	WET/42743		
60150250001	**316-030**	SM 2540D	WET/42735		
60150250001	**316-030**	SM 4500-H+B	WET/42699		
60150250001	**316-030**	EPA 350.1	WETA/25712		
60150250001	**316-030**	EPA 410.4	WETA/25683		

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Sample Condition Upon Receipt

WO#: 60150250

60150250

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: [illegible] 8/3/13 755

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.	pH
Sufficient volume:	☒Yes ☐No ☐N/A	8.	
Correct containers used:	☒Yes ☐No ☐N/A		
Pace containers used:	☒Yes ☐No ☐N/A	9.	
Containers intact:	☒Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.	
Sample labels match COC:	☒Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix:	water	13.	
All containers needing preservation have been checked.	☐Yes ☒No ☐N/A		BP3N + BP3S not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed [illegible]	Lot # of added preservative 12510-1-3
Trip Blank present:	☐Yes ☐No ☒N/A		
Pace Trip Blank lot # (if purchased): n/a		15.	
Headspace in VOA vials (>6mm):	☐Yes ☐No ☒N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:	

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: [signature] Date: 8/5/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150250 5(DG9M) 1(BP3S)5.0 1(BP3N)5.0 2(BP2N) 3(AG1U) 3(AG1H)
1	316-030	OT	G	8/2/13	758	—	—		~~13~~ 15	~~9~~ 10	1	1	~~2~~ 3						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK								2	2																X			2(DG9M)			Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/2/13	1625	[signature] 554	8/2/13	1625				
SITE ADDRESS: BRIDGETON LF				[signature] Pace	8/3/13	1115	2.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 8/2/13

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

August 12, 2013

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

RE: Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

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 316-031
Pace Project No.: 60150294

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150294001	**316-031**	Water	08/03/13 15:48	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150294001	**316-031**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

Sample: 316-031 **Lab ID: 60150294001** Collected: 08/03/13 15:48 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31000**	mg/L	2.0	1	08/05/13 15:28	08/10/13 10:58		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

QC Batch: WET/42721
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150294001

METHOD BLANK: 1231194 Matrix: Water
Associated Lab Samples: 60150294001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/10/13 10:55	

LABORATORY CONTROL SAMPLE: 1231195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	210	106	85-115	

SAMPLE DUPLICATE: 1231196

Parameter	Units	60150294001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31000	29400	5	17	

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QUALIFIERS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-031
Pace Project No.: 60150294

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150294001	**316-031**	SM 5210B	WET/42721	SM 5210B	WET/42817

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60150294

60150294

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JPS 6/5/13 1340

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH, BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☒N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed MA / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): cowa2		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/7

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60150294
1	316-031	OT	G	5/3/13	1548				1	1									X		1(BRM) 001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/5/13	919	Bill Stone 412	8-5-13	9:15				
SITE ADDRESS: BRIDGETON LF				Pace	8/5/13	1315	1.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/3/13				

Pace Analytical Services, Inc.
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August 12, 2013

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

RE: Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 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 316-031
Pace Project No.: 60150295

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9608 Loiret Boulevard, Lenexa, KS 66219
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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 316-031
Pace Project No.: 60150295

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150295001	**316-031**	Water	08/03/13 15:48	08/05/13 13:15
60150295002	**TRIP BLANK**	Water	08/03/13 08:00	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150295001	**316-031**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150295002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Sample: 316-031 **Lab ID: 60150295001** Collected: 08/03/13 15:48 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4850**	ug/L	150	2	08/07/13 10:20	08/08/13 16:18	7429-90-5	
Antimony	**32.1**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:18	7440-36-0	
Arsenic	**500**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:18	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/07/13 10:20	08/08/13 16:18	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:18	7440-43-9	D3
Chromium	**198**	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:51	7440-47-3	
Cobalt	**44.1**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:18	7440-48-4	
Copper	ND	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:18	7440-50-8	D3
Iron	**418000**	ug/L	100	2	08/07/13 10:20	08/08/13 16:18	7439-89-6	
Lead	**66.7**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:18	7439-92-1	
Nickel	**114**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:18	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/07/13 10:20	08/08/13 16:51	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/07/13 10:20	08/08/13 16:18	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/07/13 10:20	08/08/13 16:51	7440-28-0	D3
Zinc	**9110**	ug/L	1000	20	08/07/13 10:20	08/08/13 17:08	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2340**	ug/L	150	2	08/08/13 16:20	08/09/13 09:44	7429-90-5	
Antimony, Dissolved	**34.0**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:44	7440-36-0	D9
Arsenic, Dissolved	**456**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:44	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 10:02	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:44	7440-43-9	D3
Chromium, Dissolved	**194**	ug/L	25.0	5	08/08/13 16:20	08/09/13 10:02	7440-47-3	
Cobalt, Dissolved	**40.3**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:44	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:44	7440-50-8	D3
Iron, Dissolved	**349000**	ug/L	100	2	08/08/13 16:20	08/09/13 09:44	7439-89-6	
Lead, Dissolved	**63.5**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:44	7439-92-1	
Nickel, Dissolved	**112**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:44	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 10:02	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 09:44	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/08/13 16:20	08/09/13 10:02	7440-28-0	D3
Zinc, Dissolved	**6770**	ug/L	1000	20	08/08/13 16:20	08/09/13 10:35	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.5**	ug/L	0.20	1	08/07/13 08:30	08/07/13 11:53	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	08/07/13 08:30	08/07/13 11:35	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/09/13 00:00	08/12/13 10:16	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Sample: 316-031 **Lab ID: 60150295001** Collected: 08/03/13 15:48 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	87-86-5	
Phenol	**9930**	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:16	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/09/13 00:00	08/12/13 10:16	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/09/13 00:00	08/12/13 10:16	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/09/13 00:00	08/12/13 10:16	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/09/13 00:00	08/12/13 10:16	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/09/13 00:00	08/12/13 10:16	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/09/13 00:00	08/12/13 10:16	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/08/13 12:30	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/08/13 12:30	75-27-4	
Bromoform	ND	ug/L	200	200		08/08/13 12:30	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/08/13 12:30	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/08/13 12:30	56-23-5	M1
Chloroethane	ND	ug/L	200	200		08/08/13 12:30	75-00-3	
Chloroform	ND	ug/L	200	200		08/08/13 12:30	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/08/13 12:30	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/08/13 12:30	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 12:30	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 12:30	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/08/13 12:30	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/08/13 12:30	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/08/13 12:30	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/08/13 12:30	127-18-4	
Toluene	ND	ug/L	200	200		08/08/13 12:30	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/08/13 12:30	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/08/13 12:30	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/08/13 12:30	79-01-6	M1
Vinyl chloride	ND	ug/L	200	200		08/08/13 12:30	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/08/13 12:30	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	91	%	80-120	200		08/08/13 12:30	1868-53-7	D3
4-Bromofluorobenzene (S)	98	%	80-120	200		08/08/13 12:30	460-00-4	
Toluene-d8 (S)	94	%	80-120	200		08/08/13 12:30	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	200		08/08/13 12:30	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/08/13 12:30		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**499**	mg/L	5.0	1		08/06/13 07:39		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.2**	mg/L	5.0	1		08/07/13 07:32		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Sample: 316-031 **Lab ID: 60150295001** Collected: 08/03/13 15:48 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1760**	mg/L	5.0	1		08/06/13 15:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**6.0**	Std. Units	0.10	1		08/06/13 14:04		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**767**	mg/L	20.0	200		08/07/13 14:34	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**46700**	mg/L	5000	500		08/09/13 16:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Sample: TRIP BLANK **Lab ID: 60150295002** Collected: 08/03/13 08:00 Received: 08/05/13 13:15 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		08/08/13 13:12	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/08/13 13:12	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/08/13 13:12	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/08/13 13:12	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/08/13 13:12	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/08/13 13:12	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/08/13 13:12	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/08/13 13:12	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/08/13 13:12	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 13:12	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 13:12	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/08/13 13:12	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/08/13 13:12	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/08/13 13:12	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/08/13 13:12	127-18-4	
Toluene	ND	ug/L	1.0	1		08/08/13 13:12	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/08/13 13:12	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/08/13 13:12	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/08/13 13:12	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/08/13 13:12	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/08/13 13:12	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	90	%	80-120	1		08/08/13 13:12	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/08/13 13:12	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		08/08/13 13:12	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	1		08/08/13 13:12	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/08/13 13:12		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: MERP/7577
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150295001

METHOD BLANK: 1231936 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/07/13 11:46	

LABORATORY CONTROL SAMPLE: 1231937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231938 1231939

Parameter	Units	60150362001 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	4.0	3.0	81	60	70-130	29	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: MERP/7576
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150295001

METHOD BLANK: 1231932 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/13 11:17	

LABORATORY CONTROL SAMPLE: 1231933

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231934 1231935

Parameter	Units	60150362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.8	4.0	77	80	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: MPRP/23748
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150295001

METHOD BLANK: 1232008 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/08/13 14:51	
Antimony	ug/L	ND	10.0	08/08/13 14:51	
Arsenic	ug/L	ND	10.0	08/08/13 14:51	
Beryllium	ug/L	ND	1.0	08/08/13 14:51	
Cadmium	ug/L	ND	5.0	08/08/13 14:51	
Chromium	ug/L	ND	5.0	08/08/13 14:51	
Cobalt	ug/L	ND	5.0	08/08/13 14:51	
Copper	ug/L	ND	10.0	08/08/13 14:51	
Iron	ug/L	ND	50.0	08/08/13 14:51	
Lead	ug/L	ND	5.0	08/08/13 14:51	
Nickel	ug/L	ND	5.0	08/08/13 14:51	
Selenium	ug/L	ND	15.0	08/08/13 14:51	
Silver	ug/L	ND	7.0	08/08/13 14:51	
Thallium	ug/L	ND	20.0	08/08/13 14:51	
Zinc	ug/L	ND	50.0	08/08/13 14:51	

LABORATORY CONTROL SAMPLE: 1232009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	971	97	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	960	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	995	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	499	100	85-115	
Thallium	ug/L	1000	988	99	85-115	
Zinc	ug/L	1000	991	99	85-115	

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	123	10000	10300	102	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	989	98	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	938	94	70-130	
Cobalt	ug/L	ND	1000	981	98	70-130	
Copper	ug/L	ND	1000	978	98	70-130	
Iron	ug/L	91.4	10000	9780	97	70-130	
Lead	ug/L	ND	1000	973	97	70-130	
Nickel	ug/L	ND	1000	991	99	70-130	
Selenium	ug/L	ND	1000	1000	100	70-130	
Silver	ug/L	ND	500	499	100	70-130	
Thallium	ug/L	ND	1000	974	97	70-130	
Zinc	ug/L	ND	1000	949	95	70-130	

MATRIX SPIKE SAMPLE: 1232011

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	
Arsenic	ug/L	18.7	1000	1010	99	70-130	
Beryllium	ug/L	ND	1000	993	99	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	952	95	70-130	
Cobalt	ug/L	ND	1000	991	99	70-130	
Copper	ug/L	ND	1000	982	98	70-130	
Iron	ug/L	2080	10000	11700	97	70-130	
Lead	ug/L	ND	1000	977	97	70-130	
Nickel	ug/L	ND	1000	1000	100	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	504	101	70-130	
Thallium	ug/L	ND	1000	976	98	70-130	
Zinc	ug/L	ND	1000	968	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: MPRP/23784
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150295001

METHOD BLANK: 1233265 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/09/13 09:20	
Antimony, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Arsenic, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Beryllium, Dissolved	ug/L	ND	1.0	08/09/13 09:20	
Cadmium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Chromium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Cobalt, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Copper, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Iron, Dissolved	ug/L	ND	50.0	08/09/13 09:20	
Lead, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Nickel, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Selenium, Dissolved	ug/L	ND	15.0	08/09/13 09:20	
Silver, Dissolved	ug/L	ND	7.0	08/09/13 09:20	
Thallium, Dissolved	ug/L	ND	20.0	08/09/13 09:20	
Zinc, Dissolved	ug/L	ND	50.0	08/09/13 09:20	

LABORATORY CONTROL SAMPLE: 1233266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	987	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	986	99	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	996	100	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	988	99	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1050	1040	104	103	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	998	987	100	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	11	
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	514	510	103	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	988	978	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	ND	1000	1000	996	987	99	98	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: MSV/55457 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150295001, 60150295002

METHOD BLANK: 1232937 Matrix: Water
Associated Lab Samples: 60150295001, 60150295002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/08/13 11:47	
Benzene	ug/L	ND	1.0	08/08/13 11:47	
Bromodichloromethane	ug/L	ND	1.0	08/08/13 11:47	
Bromoform	ug/L	ND	1.0	08/08/13 11:47	
Bromomethane	ug/L	ND	5.0	08/08/13 11:47	
Carbon tetrachloride	ug/L	ND	1.0	08/08/13 11:47	
Chloroethane	ug/L	ND	1.0	08/08/13 11:47	
Chloroform	ug/L	ND	1.0	08/08/13 11:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Ethylbenzene	ug/L	ND	1.0	08/08/13 11:47	
Methylene chloride	ug/L	ND	1.0	08/08/13 11:47	
Tetrachloroethene	ug/L	ND	1.0	08/08/13 11:47	
Toluene	ug/L	ND	1.0	08/08/13 11:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Trichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Vinyl chloride	ug/L	ND	1.0	08/08/13 11:47	
Xylene (Total)	ug/L	ND	3.0	08/08/13 11:47	
1,2-Dichloroethane-d4 (S)	%	90	80-120	08/08/13 11:47	
4-Bromofluorobenzene (S)	%	99	80-120	08/08/13 11:47	
Toluene-d8 (S)	%	95	80-120	08/08/13 11:47	

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	20.0	100	68-124	
Benzene	ug/L	20	17.8	89	73-129	
Bromodichloromethane	ug/L	20	15.1	75	63-129	
Bromoform	ug/L	20	18.9	94	52-123	
Bromomethane	ug/L	20	21.6	108	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.4	82	42-160	
Chloroform	ug/L	20	14.5	72	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.2	86	66-133	
Methylene chloride	ug/L	20	16.6	83	56-135	
Tetrachloroethene	ug/L	20	18.2	91	64-143	
Toluene	ug/L	20	17.2	86	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.3	81	67-149	
Trichloroethene	ug/L	20	14.6	73	71-130	
Vinyl chloride	ug/L	20	17.7	89	41-160	
Xylene (Total)	ug/L	60	54.7	91	67-130	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1232939

Parameter	Units	60150295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2540	63	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3740	93	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2900	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2700	68	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	85	18-147	
Benzene	ug/L	ND	4000	3090	77	37-151	
Bromodichloromethane	ug/L	ND	4000	2540	63	35-155	
Bromoform	ug/L	ND	4000	3070	74	45-133	
Bromomethane	ug/L	ND	4000	3550	89	10-160	
Carbon tetrachloride	ug/L	ND	4000	2550	64	70-140	M1
Chloroethane	ug/L	ND	4000	2680	67	14-160	
Chloroform	ug/L	ND	4000	2470	61	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2570	64	19-160	
Ethylbenzene	ug/L	ND	4000	2850	71	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3100	76	64-148	
Toluene	ug/L	ND	4000	2930	71	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2750	69	54-156	
Trichloroethene	ug/L	ND	4000	2450	61	71-157	M1
Vinyl chloride	ug/L	ND	4000	2990	75	10-160	
Xylene (Total)	ug/L	ND	12000	9220	77	12-153	
1,2-Dichloroethane-d4 (S)	%				85	80-120	
4-Bromofluorobenzene (S)	%				110	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: OEXT/39759
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150295001

METHOD BLANK: 1233568
Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/12/13 09:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/12/13 09:14	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachloroethane	ug/L	ND	5.0	08/12/13 09:14	
Naphthalene	ug/L	ND	5.0	08/12/13 09:14	
Nitrobenzene	ug/L	ND	5.0	08/12/13 09:14	
Pentachlorophenol	ug/L	ND	5.0	08/12/13 09:14	
Phenol	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Tribromophenol (S)	%	76	39-119	08/12/13 09:14	
2-Fluorobiphenyl (S)	%	76	36-120	08/12/13 09:14	
2-Fluorophenol (S)	%	43	18-120	08/12/13 09:14	
Nitrobenzene-d5 (S)	%	75	32-120	08/12/13 09:14	
Phenol-d6 (S)	%	29	12-120	08/12/13 09:14	
Terphenyl-d14 (S)	%	75	44-120	08/12/13 09:14	

LABORATORY CONTROL SAMPLE: 1233569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.2	80	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.7	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	31-120	
Hexachloroethane	ug/L	50	39.8	80	40-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	42.5	85	47-120	
Pentachlorophenol	ug/L	50	46.4	93	43-127	
Phenol	ug/L	50	16.8	34	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			85	36-120	
2-Fluorophenol (S)	%			49	18-120	
Nitrobenzene-d5 (S)	%			80	32-120	
Phenol-d6 (S)	%			33	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: WET/42723
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150295001

METHOD BLANK: 1231303 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/06/13 07:31	

LABORATORY CONTROL SAMPLE: 1231304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.8	100	78-114	

MATRIX SPIKE SAMPLE: 1231305

Parameter	Units	60150289001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.8	43.3	98	78-114	

SAMPLE DUPLICATE: 1231306

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	518	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: WET/42743 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150295001

METHOD BLANK: 1231879 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/07/13 07:27	

LABORATORY CONTROL SAMPLE: 1231880

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: 1231912

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	22.1	95	64-132	

SAMPLE DUPLICATE: 1231915

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	70.0	51.9	30	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: WET/42735
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150295001

METHOD BLANK: 1231637
Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/13 15:46	

SAMPLE DUPLICATE: 1231638

Parameter	Units	60150016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	75.0	69.0	8	25	

SAMPLE DUPLICATE: 1231639

Parameter	Units	60150153001 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 316-031
Pace Project No.: 60150295

QC Batch: WET/42739
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150295001

SAMPLE DUPLICATE: 1231691

Parameter	Units	60150295001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: WETA/25712 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150295001

METHOD BLANK: 1232218 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/07/13 14:22	

LABORATORY CONTROL SAMPLE: 1232219

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

MATRIX SPIKE SAMPLE: 1232220

Parameter	Units	60149918006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.3	111	90-110	M1

MATRIX SPIKE SAMPLE: 1232222

Parameter	Units	60150017002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1232221

Parameter	Units	60149943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	0.11	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

QC Batch: WETA/25717 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150295001

METHOD BLANK: 1232729 Matrix: Water
Associated Lab Samples: 60150295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/09/13 16:28	

LABORATORY CONTROL SAMPLE: 1232730

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

MATRIX SPIKE SAMPLE: 1232731

Parameter	Units	60150285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.3	50	72.8	99	90-110	

MATRIX SPIKE SAMPLE: 1232733

Parameter	Units	60149898005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	37.9	50	74.7	74	90-110	M1

SAMPLE DUPLICATE: 1232732

Parameter	Units	60150299001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	44900	44000	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-031
Pace Project No.: 60150295

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150295001	**316-031**	EPA 200.7	MPRP/23748	EPA 200.7	ICP/18621
60150295001	**316-031**	EPA 200.7	MPRP/23784	EPA 200.7	ICP/18641
60150295001	**316-031**	EPA 245.1	MERP/7577	EPA 245.1	MERC/7532
60150295001	**316-031**	EPA 245.1	MERP/7576	EPA 245.1	MERC/7531
60150295001	**316-031**	EPA 625	OEXT/39759	EPA 625	MSSV/12606
60150295001	**316-031**	EPA 624 Low	MSV/55457		
60150295002	**TRIP BLANK**	EPA 624 Low	MSV/55457		
60150295001	**316-031**	EPA 1664A	WET/42723		
60150295001	**316-031**	EPA 1664A	WET/42743		
60150295001	**316-031**	SM 2540D	WET/42735		
60150295001	**316-031**	SM 4500-H+B	WET/42739		
60150295001	**316-031**	EPA 350.1	WETA/25712		
60150295001	**316-031**	EPA 410.4	WETA/25717		

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Sample Condition Upon Receipt

WO#: 60150295

60150295

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JDS 6/5/13 1340

Chain of Custody present:	☒Yes ☐No ☐N/A	1.	
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.	
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.	
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.	
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.	
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6.	pH ~~BOD~~
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.	
Sufficient volume:	☒Yes ☐No ☐N/A	8.	
Correct containers used:	☒Yes ☐No ☐N/A		
Pace containers used:	☒Yes ☐No ☐N/A	9.	
Containers intact:	☒Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.	
Sample labels match COC:	☒Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix: water		13.	
All containers needing preservation have been checked.	☒Yes ☐No ☒N/A		Samples not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☒N/A	14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed MA	Lot # of added preservative 12510.1-3
Trip Blank present:	☒Yes ☐No ☐N/A		
Pace Trip Blank lot # (if purchased): covered		15.	
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.	
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:	

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: 8/7

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	~~60150295~~ 60150295 1(BP3S)1.5 1(BP3N)1.5 5(DG9M) 2(BP2N) 3(AGM) 3(AGM)
1	316-031	OT	G	8/3/13	1548				~~10~~ 15	~~0~~ 10	1	1	~~2~~ 3						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK								2	2																X			2(DG9M)			Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/5/13	919	Bill Stone 412	8-5-13	9:19				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	8/5/13	1315	1.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 8/3/13

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August 12, 2013

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

RE: Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

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 316-032
Pace Project No.: 60150298

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150298001	**316-032**	Water	08/04/13 12:21	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150298001	**316-032**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

Sample: 316-032 **Lab ID: 60150298001** Collected: 08/04/13 12:21 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**26300**	mg/L	2.0	1	08/05/13 15:33	08/10/13 11:03		

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

QC Batch: WET/42721
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150298001

METHOD BLANK: 1231194 Matrix: Water
Associated Lab Samples: 60150298001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/10/13 10:55	

LABORATORY CONTROL SAMPLE: 1231195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	210	106	85-115	

SAMPLE DUPLICATE: 1231196

Parameter	Units	60150294001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31000	29400	5	17	

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QUALIFIERS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-032
Pace Project No.: 60150298

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150298001	**316-032**	SM 5210B	WET/42721	SM 5210B	WET/42817

REPORT OF LABORATORY ANALYSIS

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www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60150298

60150298

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JAD 1425

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

1.
2.
3.
4.
5.
6. BOD
7.
8.
9.
10.
11.
12.
13.
14. Samples not able to be preserved.

Initial when completed: JAD Lot # of added preservative: 12550-1-3

15.
16.
17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-032	OT	G	8/4/13	1221	—			1	1									X		1(BP2U) 001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/5/13	920	Bill Stier 412	8-5-13	9:15				
SITE ADDRESS: BRIDGETON LF				[signature] / Pace	8/5/13	1315	1.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 8/4/13

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

August 12, 2013

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

RE: Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 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 316-032
Pace Project No.: 60150299

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 316-032
Pace Project No.: 60150299

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150299001	**316-032**	Water	08/04/13 12:21	08/05/13 13:15
60150299002	**TRIP BLANK**	Water	08/04/13 08:00	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150299001	**316-032**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150299002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Sample: 316-032 **Lab ID: 60150299001** Collected: 08/04/13 12:21 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7460**	ug/L	150	2	08/07/13 10:20	08/08/13 16:22	7429-90-5	
Antimony	**29.4**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:22	7440-36-0	
Arsenic	**502**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:22	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/07/13 10:20	08/08/13 16:22	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:22	7440-43-9	D3
Chromium	**203**	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:55	7440-47-3	
Cobalt	**49.9**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:22	7440-48-4	
Copper	ND	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:22	7440-50-8	D3
Iron	**572000**	ug/L	100	2	08/07/13 10:20	08/08/13 16:22	7439-89-6	
Lead	**103**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:22	7439-92-1	
Nickel	**115**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:22	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/07/13 10:20	08/08/13 16:55	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/07/13 10:20	08/08/13 16:22	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/07/13 10:20	08/08/13 16:55	7440-28-0	D3
Zinc	**9480**	ug/L	1000	20	08/07/13 10:20	08/08/13 17:11	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2470**	ug/L	150	2	08/08/13 16:20	08/09/13 09:48	7429-90-5	
Antimony, Dissolved	**28.2**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:48	7440-36-0	
Arsenic, Dissolved	**430**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:48	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 10:05	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:48	7440-43-9	D3
Chromium, Dissolved	**178**	ug/L	25.0	5	08/08/13 16:20	08/09/13 10:05	7440-47-3	
Cobalt, Dissolved	**39.4**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:48	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:48	7440-50-8	D3
Iron, Dissolved	**373000**	ug/L	100	2	08/08/13 16:20	08/09/13 09:48	7439-89-6	
Lead, Dissolved	**59.9**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:48	7439-92-1	
Nickel, Dissolved	**101**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:48	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 10:05	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 09:48	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/08/13 16:20	08/09/13 10:05	7440-28-0	D3
Zinc, Dissolved	**7450**	ug/L	1000	20	08/08/13 16:20	08/09/13 10:38	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.47**	ug/L	0.20	1	08/07/13 08:30	08/07/13 11:55	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	08/07/13 08:30	08/07/13 11:37	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/09/13 00:00	08/12/13 10:37	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Sample: 316-032 **Lab ID: 60150299001** Collected: 08/04/13 12:21 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	87-86-5	
Phenol	**6390**	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:37	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/09/13 00:00	08/12/13 10:37	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/09/13 00:00	08/12/13 10:37	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/09/13 00:00	08/12/13 10:37	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/09/13 00:00	08/12/13 10:37	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/09/13 00:00	08/12/13 10:37	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/09/13 00:00	08/12/13 10:37	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/08/13 13:34	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/08/13 13:34	75-27-4	
Bromoform	ND	ug/L	200	200		08/08/13 13:34	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/08/13 13:34	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/08/13 13:34	56-23-5	
Chloroethane	ND	ug/L	200	200		08/08/13 13:34	75-00-3	
Chloroform	ND	ug/L	200	200		08/08/13 13:34	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/08/13 13:34	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/08/13 13:34	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 13:34	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 13:34	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/08/13 13:34	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/08/13 13:34	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/08/13 13:34	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/08/13 13:34	127-18-4	
Toluene	ND	ug/L	200	200		08/08/13 13:34	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/08/13 13:34	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/08/13 13:34	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/08/13 13:34	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/08/13 13:34	75-01-4	
Xylene (Total)	**1400**	ug/L	600	200		08/08/13 13:34	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	89	%	80-120	200		08/08/13 13:34	1868-53-7	D3
4-Bromofluorobenzene (S)	97	%	80-120	200		08/08/13 13:34	460-00-4	
Toluene-d8 (S)	94	%	80-120	200		08/08/13 13:34	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	200		08/08/13 13:34	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/08/13 13:34		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**411**	mg/L	5.0	1		08/06/13 07:39		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/07/13 07:32		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Sample: 316-032 **Lab ID: 60150299001** Collected: 08/04/13 12:21 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1500**	mg/L	5.0	1		08/06/13 15:47		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/06/13 14:04		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**597**	mg/L	20.0	200		08/07/13 14:35	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**44900**	mg/L	5000	500		08/09/13 16:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Sample: TRIP BLANK **Lab ID: 60150299002** Collected: 08/04/13 08:00 Received: 08/05/13 13:15 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		08/08/13 13:55	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/08/13 13:55	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/08/13 13:55	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/08/13 13:55	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/08/13 13:55	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/08/13 13:55	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/08/13 13:55	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/08/13 13:55	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/08/13 13:55	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 13:55	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 13:55	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/08/13 13:55	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/08/13 13:55	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/08/13 13:55	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/08/13 13:55	127-18-4	
Toluene	ND	ug/L	1.0	1		08/08/13 13:55	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/08/13 13:55	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/08/13 13:55	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/08/13 13:55	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/08/13 13:55	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/08/13 13:55	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	90	%	80-120	1		08/08/13 13:55	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/08/13 13:55	460-00-4	
Toluene-d8 (S)	93	%	80-120	1		08/08/13 13:55	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		08/08/13 13:55	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/08/13 13:55		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: MERP/7577
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150299001

METHOD BLANK: 1231936 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/07/13 11:46	

LABORATORY CONTROL SAMPLE: 1231937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231938 1231939

Parameter	Units	60150362001 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	4.0	3.0	81	60	70-130	29	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: MERP/7576
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150299001

METHOD BLANK: 1231932 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/13 11:17	

LABORATORY CONTROL SAMPLE: 1231933

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231934 1231935

Parameter	Units	60150362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.8	4.0	77	80	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: MPRP/23748
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150299001

METHOD BLANK: 1232008 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/08/13 14:51	
Antimony	ug/L	ND	10.0	08/08/13 14:51	
Arsenic	ug/L	ND	10.0	08/08/13 14:51	
Beryllium	ug/L	ND	1.0	08/08/13 14:51	
Cadmium	ug/L	ND	5.0	08/08/13 14:51	
Chromium	ug/L	ND	5.0	08/08/13 14:51	
Cobalt	ug/L	ND	5.0	08/08/13 14:51	
Copper	ug/L	ND	10.0	08/08/13 14:51	
Iron	ug/L	ND	50.0	08/08/13 14:51	
Lead	ug/L	ND	5.0	08/08/13 14:51	
Nickel	ug/L	ND	5.0	08/08/13 14:51	
Selenium	ug/L	ND	15.0	08/08/13 14:51	
Silver	ug/L	ND	7.0	08/08/13 14:51	
Thallium	ug/L	ND	20.0	08/08/13 14:51	
Zinc	ug/L	ND	50.0	08/08/13 14:51	

LABORATORY CONTROL SAMPLE: 1232009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	971	97	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	960	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	995	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	499	100	85-115	
Thallium	ug/L	1000	988	99	85-115	
Zinc	ug/L	1000	991	99	85-115	

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	123	10000	10300	102	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	989	98	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	938	94	70-130	
Cobalt	ug/L	ND	1000	981	98	70-130	
Copper	ug/L	ND	1000	978	98	70-130	
Iron	ug/L	91.4	10000	9780	97	70-130	
Lead	ug/L	ND	1000	973	97	70-130	
Nickel	ug/L	ND	1000	991	99	70-130	
Selenium	ug/L	ND	1000	1000	100	70-130	
Silver	ug/L	ND	500	499	100	70-130	
Thallium	ug/L	ND	1000	974	97	70-130	
Zinc	ug/L	ND	1000	949	95	70-130	

MATRIX SPIKE SAMPLE: 1232011

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	
Arsenic	ug/L	18.7	1000	1010	99	70-130	
Beryllium	ug/L	ND	1000	993	99	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	952	95	70-130	
Cobalt	ug/L	ND	1000	991	99	70-130	
Copper	ug/L	ND	1000	982	98	70-130	
Iron	ug/L	2080	10000	11700	97	70-130	
Lead	ug/L	ND	1000	977	97	70-130	
Nickel	ug/L	ND	1000	1000	100	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	504	101	70-130	
Thallium	ug/L	ND	1000	976	98	70-130	
Zinc	ug/L	ND	1000	968	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: MPRP/23784
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150299001

METHOD BLANK: 1233265 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/09/13 09:20	
Antimony, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Arsenic, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Beryllium, Dissolved	ug/L	ND	1.0	08/09/13 09:20	
Cadmium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Chromium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Cobalt, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Copper, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Iron, Dissolved	ug/L	ND	50.0	08/09/13 09:20	
Lead, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Nickel, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Selenium, Dissolved	ug/L	ND	15.0	08/09/13 09:20	
Silver, Dissolved	ug/L	ND	7.0	08/09/13 09:20	
Thallium, Dissolved	ug/L	ND	20.0	08/09/13 09:20	
Zinc, Dissolved	ug/L	ND	50.0	08/09/13 09:20	

LABORATORY CONTROL SAMPLE: 1233266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	987	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	986	99	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	996	100	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	988	99	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1050	1040	104	103	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	998	987	100	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	11	
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	514	510	103	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	988	978	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	ND	1000	1000	996	987	99	98	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: MSV/55457 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150299001, 60150299002

METHOD BLANK: 1232937 Matrix: Water
Associated Lab Samples: 60150299001, 60150299002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/08/13 11:47	
Benzene	ug/L	ND	1.0	08/08/13 11:47	
Bromodichloromethane	ug/L	ND	1.0	08/08/13 11:47	
Bromoform	ug/L	ND	1.0	08/08/13 11:47	
Bromomethane	ug/L	ND	5.0	08/08/13 11:47	
Carbon tetrachloride	ug/L	ND	1.0	08/08/13 11:47	
Chloroethane	ug/L	ND	1.0	08/08/13 11:47	
Chloroform	ug/L	ND	1.0	08/08/13 11:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Ethylbenzene	ug/L	ND	1.0	08/08/13 11:47	
Methylene chloride	ug/L	ND	1.0	08/08/13 11:47	
Tetrachloroethene	ug/L	ND	1.0	08/08/13 11:47	
Toluene	ug/L	ND	1.0	08/08/13 11:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Trichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Vinyl chloride	ug/L	ND	1.0	08/08/13 11:47	
Xylene (Total)	ug/L	ND	3.0	08/08/13 11:47	
1,2-Dichloroethane-d4 (S)	%	90	80-120	08/08/13 11:47	
4-Bromofluorobenzene (S)	%	99	80-120	08/08/13 11:47	
Toluene-d8 (S)	%	95	80-120	08/08/13 11:47	

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	20.0	100	68-124	
Benzene	ug/L	20	17.8	89	73-129	
Bromodichloromethane	ug/L	20	15.1	75	63-129	
Bromoform	ug/L	20	18.9	94	52-123	
Bromomethane	ug/L	20	21.6	108	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.4	82	42-160	
Chloroform	ug/L	20	14.5	72	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.2	86	66-133	
Methylene chloride	ug/L	20	16.6	83	56-135	
Tetrachloroethene	ug/L	20	18.2	91	64-143	
Toluene	ug/L	20	17.2	86	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.3	81	67-149	
Trichloroethene	ug/L	20	14.6	73	71-130	
Vinyl chloride	ug/L	20	17.7	89	41-160	
Xylene (Total)	ug/L	60	54.7	91	67-130	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1232939

Parameter	Units	60150295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2540	63	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3740	93	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2900	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2700	68	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	85	18-147	
Benzene	ug/L	ND	4000	3090	77	37-151	
Bromodichloromethane	ug/L	ND	4000	2540	63	35-155	
Bromoform	ug/L	ND	4000	3070	74	45-133	
Bromomethane	ug/L	ND	4000	3550	89	10-160	
Carbon tetrachloride	ug/L	ND	4000	2550	64	70-140	M1
Chloroethane	ug/L	ND	4000	2680	67	14-160	
Chloroform	ug/L	ND	4000	2470	61	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2570	64	19-160	
Ethylbenzene	ug/L	ND	4000	2850	71	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3100	76	64-148	
Toluene	ug/L	ND	4000	2930	71	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2750	69	54-156	
Trichloroethene	ug/L	ND	4000	2450	61	71-157	M1
Vinyl chloride	ug/L	ND	4000	2990	75	10-160	
Xylene (Total)	ug/L	ND	12000	9220	77	12-153	
1,2-Dichloroethane-d4 (S)	%				85	80-120	
4-Bromofluorobenzene (S)	%				110	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: OEXT/39759 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150299001

METHOD BLANK: 1233568 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/12/13 09:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/12/13 09:14	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachloroethane	ug/L	ND	5.0	08/12/13 09:14	
Naphthalene	ug/L	ND	5.0	08/12/13 09:14	
Nitrobenzene	ug/L	ND	5.0	08/12/13 09:14	
Pentachlorophenol	ug/L	ND	5.0	08/12/13 09:14	
Phenol	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Tribromophenol (S)	%	76	39-119	08/12/13 09:14	
2-Fluorobiphenyl (S)	%	76	36-120	08/12/13 09:14	
2-Fluorophenol (S)	%	43	18-120	08/12/13 09:14	
Nitrobenzene-d5 (S)	%	75	32-120	08/12/13 09:14	
Phenol-d6 (S)	%	29	12-120	08/12/13 09:14	
Terphenyl-d14 (S)	%	75	44-120	08/12/13 09:14	

LABORATORY CONTROL SAMPLE: 1233569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.2	80	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.7	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	31-120	
Hexachloroethane	ug/L	50	39.8	80	40-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	42.5	85	47-120	
Pentachlorophenol	ug/L	50	46.4	93	43-127	
Phenol	ug/L	50	16.8	34	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			85	36-120	
2-Fluorophenol (S)	%			49	18-120	
Nitrobenzene-d5 (S)	%			80	32-120	
Phenol-d6 (S)	%			33	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: WET/42723 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150299001

METHOD BLANK: 1231303 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/06/13 07:31	

LABORATORY CONTROL SAMPLE: 1231304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.8	100	78-114	

MATRIX SPIKE SAMPLE: 1231305

Parameter	Units	60150289001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.8	43.3	98	78-114	

SAMPLE DUPLICATE: 1231306

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	518	14	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: WET/42743 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150299001

METHOD BLANK: 1231879 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/07/13 07:27	

LABORATORY CONTROL SAMPLE: 1231880

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: 1231912

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	22.1	95	64-132	

SAMPLE DUPLICATE: 1231915

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	70.0	51.9	30	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: WET/42735 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150299001

METHOD BLANK: 1231637 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/13 15:46	

SAMPLE DUPLICATE: 1231638

Parameter	Units	60150016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	75.0	69.0	8	25	

SAMPLE DUPLICATE: 1231639

Parameter	Units	60150153001 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 316-032
Pace Project No.: 60150299

QC Batch: WET/42739
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150299001

SAMPLE DUPLICATE: 1231691

Parameter	Units	60150295001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: WETA/25712 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150299001

METHOD BLANK: 1232218 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/07/13 14:22	

LABORATORY CONTROL SAMPLE: 1232219

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

MATRIX SPIKE SAMPLE: 1232220

Parameter	Units	60149918006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.3	111	90-110	M1

MATRIX SPIKE SAMPLE: 1232222

Parameter	Units	60150017002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1232221

Parameter	Units	60149943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	0.11	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

QC Batch: WETA/25717 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150299001

METHOD BLANK: 1232729 Matrix: Water
Associated Lab Samples: 60150299001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/09/13 16:28	

LABORATORY CONTROL SAMPLE: 1232730

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

MATRIX SPIKE SAMPLE: 1232731

Parameter	Units	60150285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.3	50	72.8	99	90-110	

MATRIX SPIKE SAMPLE: 1232733

Parameter	Units	60149898005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	37.9	50	74.7	74	90-110	M1

SAMPLE DUPLICATE: 1232732

Parameter	Units	60150299001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	44900	44000	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-032
Pace Project No.: 60150299

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150299001	**316-032**	EPA 200.7	MPRP/23748	EPA 200.7	ICP/18621
60150299001	**316-032**	EPA 200.7	MPRP/23784	EPA 200.7	ICP/18641
60150299001	**316-032**	EPA 245.1	MERP/7577	EPA 245.1	MERC/7532
60150299001	**316-032**	EPA 245.1	MERP/7576	EPA 245.1	MERC/7531
60150299001	**316-032**	EPA 625	OEXT/39759	EPA 625	MSSV/12606
60150299001	**316-032**	EPA 624 Low	MSV/55457		
60150299002	**TRIP BLANK**	EPA 624 Low	MSV/55457		
60150299001	**316-032**	EPA 1664A	WET/42723		
60150299001	**316-032**	EPA 1664A	WET/42743		
60150299001	**316-032**	SM 2540D	WET/42735		
60150299001	**316-032**	SM 4500-H+B	WET/42739		
60150299001	**316-032**	EPA 350.1	WETA/25712		
60150299001	**316-032**	EPA 410.4	WETA/25717		

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Pace Analytical
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Sample Condition Upon Receipt

WO#: 60150299

60150299

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JJS 1425

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☒Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☒Yes ☐No ☒N/A	Samples not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☒N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed JJS / Lot # of added preservative 12590-1-3
Trip Blank present: Pace Trip Blank lot # (if purchased): covered	☒Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/7/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	6015099
1	316-032	OT	G	8/4/13	1221				15 10	1	1	1	2 3					X	X	X	X	X	X	X	X	X	X			5(DLPM) 2(HCLM) 3(HNO3M) 2(BPM) 1(BPM) 1(CBPS)
2	TRIP BLANK								2	2																X		2(DLPM)		METALS LIST total & LF Dis:
3																														Al, Sb, As, Be, Cd, Cr,
4																														Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn
5																														and Mercury
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	Hunter King	8/5/13	920	Bob Stone 412	8-5-13	9:05				
SITE ADDRESS: BRIDGETON LF				Pace	8/5/13	1315	1.9			
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/4/13				

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(913)599-5665

August 12, 2013

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

RE: Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 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 316-33
Pace Project No.: 60150300

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 316-33
Pace Project No.: 60150300

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150300001	**316-33**	Water	08/05/13 06:42	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150300001	**316-33**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

Sample: 316-33 **Lab ID: 60150300001** Collected: 08/05/13 06:42 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27400**	mg/L	2.0	1	08/05/13 15:33	08/10/13 11:05		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

QC Batch: WET/42721
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150300001

METHOD BLANK: 1231194 Matrix: Water
Associated Lab Samples: 60150300001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/10/13 10:55	

LABORATORY CONTROL SAMPLE: 1231195

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	210	106	85-115	

SAMPLE DUPLICATE: 1231196

Parameter	Units	60150294001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	31000	29400	5	17	

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QUALIFIERS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-33
Pace Project No.: 60150300

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150300001	**316-33**	SM 5210B	WET/42721	SM 5210B	WET/42817

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Sample Condition Upon Receipt

WO#: 60150300

60150300

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ 2pic

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: AL 8/5/13

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8-7-13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left) Drinking Water DW Water WT Waste Water WW Product P Soil/Solid SL Oil OL Wipe WP Air AR Other OT Tissue TS	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60150300
1	316-033	OT	G	8/5/13	0942				1	1									X		1BP2U x1
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	Hunter King	8/5/13	925	Bob Stone 412	8-5-13	9:15				
SITE ADDRESS: BRIDGETON LF				PHS	~~8/5/13~~ 8/5/13	1315	1-3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/5/13				

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August 12, 2013

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

RE: Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 05, 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 316-33
Pace Project No.: 60150301

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 316-33
Pace Project No.: 60150301

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150301001	**316-33**	Water	08/05/13 06:42	08/05/13 13:15
60150301002	**TRIP BLANK**	Water	08/05/13 08:00	08/05/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150301001	**316-33**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	NDJ	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150301002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Sample: 316-33 **Lab ID: 60150301001** Collected: 08/05/13 06:42 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**15500**	ug/L	150	2	08/07/13 10:20	08/08/13 16:25	7429-90-5	
Antimony	**30.4**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:25	7440-36-0	
Arsenic	**571**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:25	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/07/13 10:20	08/08/13 16:25	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:58	7440-43-9	D3
Chromium	**246**	ug/L	25.0	5	08/07/13 10:20	08/08/13 16:58	7440-47-3	
Cobalt	**62.0**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:25	7440-48-4	
Copper	**20.5**	ug/L	20.0	2	08/07/13 10:20	08/08/13 16:25	7440-50-8	
Iron	**850000**	ug/L	100	2	08/07/13 10:20	08/08/13 16:25	7439-89-6	
Lead	**186**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:25	7439-92-1	
Nickel	**138**	ug/L	10.0	2	08/07/13 10:20	08/08/13 16:25	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/07/13 10:20	08/08/13 16:58	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/07/13 10:20	08/08/13 16:25	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/07/13 10:20	08/08/13 16:58	7440-28-0	D3
Zinc	**11900**	ug/L	1000	20	08/07/13 10:20	08/08/13 17:14	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3010**	ug/L	150	2	08/08/13 16:20	08/09/13 09:51	7429-90-5	
Antimony, Dissolved	**35.1**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:51	7440-36-0	D9
Arsenic, Dissolved	**477**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:51	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 10:25	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:51	7440-43-9	D3
Chromium, Dissolved	**197**	ug/L	25.0	5	08/08/13 16:20	08/09/13 10:25	7440-47-3	
Cobalt, Dissolved	**43.3**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:51	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:51	7440-50-8	D3
Iron, Dissolved	**479000**	ug/L	100	2	08/08/13 16:20	08/09/13 09:51	7439-89-6	
Lead, Dissolved	**67.7**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:51	7439-92-1	
Nickel, Dissolved	**108**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:51	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 10:25	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 09:51	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/08/13 16:20	08/09/13 10:25	7440-28-0	D3
Zinc, Dissolved	**9430**	ug/L	1000	20	08/08/13 16:20	08/09/13 10:41	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/07/13 08:30	08/07/13 11:57	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	08/07/13 08:30	08/07/13 11:44	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/09/13 00:00	08/12/13 10:58	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Sample: 316-33 **Lab ID: 60150301001** Collected: 08/05/13 06:42 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	87-86-5	
Phenol	**10700**	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/12/13 10:58	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/09/13 00:00	08/12/13 10:58	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/09/13 00:00	08/12/13 10:58	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/09/13 00:00	08/12/13 10:58	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/09/13 00:00	08/12/13 10:58	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/09/13 00:00	08/12/13 10:58	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/09/13 00:00	08/12/13 10:58	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/08/13 14:16	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/08/13 14:16	75-27-4	
Bromoform	ND	ug/L	200	200		08/08/13 14:16	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/08/13 14:16	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/08/13 14:16	56-23-5	
Chloroethane	ND	ug/L	200	200		08/08/13 14:16	75-00-3	
Chloroform	ND	ug/L	200	200		08/08/13 14:16	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/08/13 14:16	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/08/13 14:16	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 14:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 14:16	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/08/13 14:16	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/08/13 14:16	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/08/13 14:16	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/08/13 14:16	127-18-4	
Toluene	ND	ug/L	200	200		08/08/13 14:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/08/13 14:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/08/13 14:16	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/08/13 14:16	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/08/13 14:16	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/08/13 14:16	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	89	%	80-120	200		08/08/13 14:16	1868-53-7	D3
4-Bromofluorobenzene (S)	97	%	80-120	200		08/08/13 14:16	460-00-4	
Toluene-d8 (S)	94	%	80-120	200		08/08/13 14:16	2037-26-5	
1,2-Dichloroethane-d4 (S)	93	%	80-120	200		08/08/13 14:16	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/08/13 14:16		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**563**	mg/L	5.0	1		08/06/13 07:39		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**25.9**	mg/L	5.0	1		08/07/13 07:32		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Sample: 316-33 **Lab ID: 60150301001** Collected: 08/05/13 06:42 Received: 08/05/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1520**	mg/L	5.0	1		08/06/13 15:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/06/13 14:04		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**686**	mg/L	20.0	200		08/07/13 14:36	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**46000**	mg/L	5000	500		08/09/13 16:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Sample: TRIP BLANK **Lab ID: 60150301002** Collected: 08/05/13 08:00 Received: 08/05/13 13:15 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		08/08/13 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/08/13 14:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/08/13 14:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/08/13 14:37	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/08/13 14:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/08/13 14:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/08/13 14:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/08/13 14:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/08/13 14:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 14:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/08/13 14:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/08/13 14:37	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/08/13 14:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/08/13 14:37	127-18-4	
Toluene	ND	ug/L	1.0	1		08/08/13 14:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/08/13 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/08/13 14:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/08/13 14:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/08/13 14:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/08/13 14:37	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	89	%	80-120	1		08/08/13 14:37	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/08/13 14:37	460-00-4	
Toluene-d8 (S)	94	%	80-120	1		08/08/13 14:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	85	%	80-120	1		08/08/13 14:37	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/08/13 14:37		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: MERP/7577
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150301001

METHOD BLANK: 1231936 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/07/13 11:46	

LABORATORY CONTROL SAMPLE: 1231937

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231938 1231939

Parameter	Units	60150362001 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	4.0	3.0	81	60	70-130	29	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: MERP/7576
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150301001

METHOD BLANK: 1231932 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/07/13 11:17	

LABORATORY CONTROL SAMPLE: 1231933

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1231934 1231935

Parameter	Units	60150362001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.8	4.0	77	80	70-130	4	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: MPRP/23748
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150301001

METHOD BLANK: 1232008 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/08/13 14:51	
Antimony	ug/L	ND	10.0	08/08/13 14:51	
Arsenic	ug/L	ND	10.0	08/08/13 14:51	
Beryllium	ug/L	ND	1.0	08/08/13 14:51	
Cadmium	ug/L	ND	5.0	08/08/13 14:51	
Chromium	ug/L	ND	5.0	08/08/13 14:51	
Cobalt	ug/L	ND	5.0	08/08/13 14:51	
Copper	ug/L	ND	10.0	08/08/13 14:51	
Iron	ug/L	ND	50.0	08/08/13 14:51	
Lead	ug/L	ND	5.0	08/08/13 14:51	
Nickel	ug/L	ND	5.0	08/08/13 14:51	
Selenium	ug/L	ND	15.0	08/08/13 14:51	
Silver	ug/L	ND	7.0	08/08/13 14:51	
Thallium	ug/L	ND	20.0	08/08/13 14:51	
Zinc	ug/L	ND	50.0	08/08/13 14:51	

LABORATORY CONTROL SAMPLE: 1232009

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10400	104	85-115	
Antimony	ug/L	1000	1040	104	85-115	
Arsenic	ug/L	1000	979	98	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	971	97	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	960	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	995	100	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	499	100	85-115	
Thallium	ug/L	1000	988	99	85-115	
Zinc	ug/L	1000	991	99	85-115	

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	123	10000	10300	102	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

MATRIX SPIKE SAMPLE: 1232010

Parameter	Units	60150339003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	989	98	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	938	94	70-130	
Cobalt	ug/L	ND	1000	981	98	70-130	
Copper	ug/L	ND	1000	978	98	70-130	
Iron	ug/L	91.4	10000	9780	97	70-130	
Lead	ug/L	ND	1000	973	97	70-130	
Nickel	ug/L	ND	1000	991	99	70-130	
Selenium	ug/L	ND	1000	1000	100	70-130	
Silver	ug/L	ND	500	499	100	70-130	
Thallium	ug/L	ND	1000	974	97	70-130	
Zinc	ug/L	ND	1000	949	95	70-130	

MATRIX SPIKE SAMPLE: 1232011

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10200	101	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	
Arsenic	ug/L	18.7	1000	1010	99	70-130	
Beryllium	ug/L	ND	1000	993	99	70-130	
Cadmium	ug/L	ND	1000	1010	101	70-130	
Chromium	ug/L	ND	1000	952	95	70-130	
Cobalt	ug/L	ND	1000	991	99	70-130	
Copper	ug/L	ND	1000	982	98	70-130	
Iron	ug/L	2080	10000	11700	97	70-130	
Lead	ug/L	ND	1000	977	97	70-130	
Nickel	ug/L	ND	1000	1000	100	70-130	
Selenium	ug/L	ND	1000	1020	102	70-130	
Silver	ug/L	ND	500	504	101	70-130	
Thallium	ug/L	ND	1000	976	98	70-130	
Zinc	ug/L	ND	1000	968	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: MPRP/23784
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150301001

METHOD BLANK: 1233265 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/09/13 09:20	
Antimony, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Arsenic, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Beryllium, Dissolved	ug/L	ND	1.0	08/09/13 09:20	
Cadmium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Chromium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Cobalt, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Copper, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Iron, Dissolved	ug/L	ND	50.0	08/09/13 09:20	
Lead, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Nickel, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Selenium, Dissolved	ug/L	ND	15.0	08/09/13 09:20	
Silver, Dissolved	ug/L	ND	7.0	08/09/13 09:20	
Thallium, Dissolved	ug/L	ND	20.0	08/09/13 09:20	
Zinc, Dissolved	ug/L	ND	50.0	08/09/13 09:20	

LABORATORY CONTROL SAMPLE: 1233266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	987	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	986	99	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	996	100	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	988	99	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1050	1040	104	103	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	998	987	100	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	11	
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	514	510	103	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	988	978	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	ND	1000	1000	996	987	99	98	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: MSV/55457 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150301001, 60150301002

METHOD BLANK: 1232937 Matrix: Water
Associated Lab Samples: 60150301001, 60150301002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/08/13 11:47	
Benzene	ug/L	ND	1.0	08/08/13 11:47	
Bromodichloromethane	ug/L	ND	1.0	08/08/13 11:47	
Bromoform	ug/L	ND	1.0	08/08/13 11:47	
Bromomethane	ug/L	ND	5.0	08/08/13 11:47	
Carbon tetrachloride	ug/L	ND	1.0	08/08/13 11:47	
Chloroethane	ug/L	ND	1.0	08/08/13 11:47	
Chloroform	ug/L	ND	1.0	08/08/13 11:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Ethylbenzene	ug/L	ND	1.0	08/08/13 11:47	
Methylene chloride	ug/L	ND	1.0	08/08/13 11:47	
Tetrachloroethene	ug/L	ND	1.0	08/08/13 11:47	
Toluene	ug/L	ND	1.0	08/08/13 11:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Trichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Vinyl chloride	ug/L	ND	1.0	08/08/13 11:47	
Xylene (Total)	ug/L	ND	3.0	08/08/13 11:47	
1,2-Dichloroethane-d4 (S)	%	90	80-120	08/08/13 11:47	
4-Bromofluorobenzene (S)	%	99	80-120	08/08/13 11:47	
Toluene-d8 (S)	%	95	80-120	08/08/13 11:47	

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	20.0	100	68-124	
Benzene	ug/L	20	17.8	89	73-129	
Bromodichloromethane	ug/L	20	15.1	75	63-129	
Bromoform	ug/L	20	18.9	94	52-123	
Bromomethane	ug/L	20	21.6	108	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.4	82	42-160	
Chloroform	ug/L	20	14.5	72	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.2	86	66-133	
Methylene chloride	ug/L	20	16.6	83	56-135	
Tetrachloroethene	ug/L	20	18.2	91	64-143	
Toluene	ug/L	20	17.2	86	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.3	81	67-149	
Trichloroethene	ug/L	20	14.6	73	71-130	
Vinyl chloride	ug/L	20	17.7	89	41-160	
Xylene (Total)	ug/L	60	54.7	91	67-130	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1232939

Parameter	Units	60150295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2540	63	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3740	93	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2900	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2700	68	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	85	18-147	
Benzene	ug/L	ND	4000	3090	77	37-151	
Bromodichloromethane	ug/L	ND	4000	2540	63	35-155	
Bromoform	ug/L	ND	4000	3070	74	45-133	
Bromomethane	ug/L	ND	4000	3550	89	10-160	
Carbon tetrachloride	ug/L	ND	4000	2550	64	70-140	M1
Chloroethane	ug/L	ND	4000	2680	67	14-160	
Chloroform	ug/L	ND	4000	2470	61	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2570	64	19-160	
Ethylbenzene	ug/L	ND	4000	2850	71	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3100	76	64-148	
Toluene	ug/L	ND	4000	2930	71	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2750	69	54-156	
Trichloroethene	ug/L	ND	4000	2450	61	71-157	M1
Vinyl chloride	ug/L	ND	4000	2990	75	10-160	
Xylene (Total)	ug/L	ND	12000	9220	77	12-153	
1,2-Dichloroethane-d4 (S)	%				85	80-120	
4-Bromofluorobenzene (S)	%				110	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: OEXT/39759 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150301001

METHOD BLANK: 1233568 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/12/13 09:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/12/13 09:14	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachloroethane	ug/L	ND	5.0	08/12/13 09:14	
Naphthalene	ug/L	ND	5.0	08/12/13 09:14	
Nitrobenzene	ug/L	ND	5.0	08/12/13 09:14	
Pentachlorophenol	ug/L	ND	5.0	08/12/13 09:14	
Phenol	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Tribromophenol (S)	%	76	39-119	08/12/13 09:14	
2-Fluorobiphenyl (S)	%	76	36-120	08/12/13 09:14	
2-Fluorophenol (S)	%	43	18-120	08/12/13 09:14	
Nitrobenzene-d5 (S)	%	75	32-120	08/12/13 09:14	
Phenol-d6 (S)	%	29	12-120	08/12/13 09:14	
Terphenyl-d14 (S)	%	75	44-120	08/12/13 09:14	

LABORATORY CONTROL SAMPLE: 1233569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.2	80	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.7	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	31-120	
Hexachloroethane	ug/L	50	39.8	80	40-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	42.5	85	47-120	
Pentachlorophenol	ug/L	50	46.4	93	43-127	
Phenol	ug/L	50	16.8	34	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			85	36-120	
2-Fluorophenol (S)	%			49	18-120	
Nitrobenzene-d5 (S)	%			80	32-120	
Phenol-d6 (S)	%			33	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: WET/42723 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150301001

METHOD BLANK: 1231303 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/06/13 07:31	

LABORATORY CONTROL SAMPLE: 1231304

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.8	100	78-114	

MATRIX SPIKE SAMPLE: 1231305

Parameter	Units	60150289001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.8	43.3	98	78-114	

SAMPLE DUPLICATE: 1231306

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	594	518	14	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: WET/42743 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150301001

METHOD BLANK: 1231879 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/07/13 07:27	

LABORATORY CONTROL SAMPLE: 1231880

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: 1231912

Parameter	Units	60150085001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.7	22.1	95	64-132	

SAMPLE DUPLICATE: 1231915

Parameter	Units	60149960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	70.0	51.9	30	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: WET/42735
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150301001

METHOD BLANK: 1231637
Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/06/13 15:46	

SAMPLE DUPLICATE: 1231638

Parameter	Units	60150016001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	75.0	69.0	8	25	

SAMPLE DUPLICATE: 1231639

Parameter	Units	60150153001 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 316-33
Pace Project No.: 60150301

QC Batch: WET/42739
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150301001

SAMPLE DUPLICATE: 1231691

Parameter	Units	60150295001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.0	6.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: WETA/25712 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150301001

METHOD BLANK: 1232218 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/07/13 14:22	

LABORATORY CONTROL SAMPLE: 1232219

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

MATRIX SPIKE SAMPLE: 1232220

Parameter	Units	60149918006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.3	111	90-110	M1

MATRIX SPIKE SAMPLE: 1232222

Parameter	Units	60150017002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.0	99	90-110	

SAMPLE DUPLICATE: 1232221

Parameter	Units	60149943001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.10	0.11	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

QC Batch: WETA/25717 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150301001

METHOD BLANK: 1232729 Matrix: Water
Associated Lab Samples: 60150301001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/09/13 16:28	

LABORATORY CONTROL SAMPLE: 1232730

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

MATRIX SPIKE SAMPLE: 1232731

Parameter	Units	60150285001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	23.3	50	72.8	99	90-110	

MATRIX SPIKE SAMPLE: 1232733

Parameter	Units	60149898005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	37.9	50	74.7	74	90-110	M1

SAMPLE DUPLICATE: 1232732

Parameter	Units	60150299001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	44900	44000	2	25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-33
Pace Project No.: 60150301

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150301001	**316-33**	EPA 200.7	MPRP/23748	EPA 200.7	ICP/18621
60150301001	**316-33**	EPA 200.7	MPRP/23784	EPA 200.7	ICP/18641
60150301001	**316-33**	EPA 245.1	MERP/7577	EPA 245.1	MERC/7532
60150301001	**316-33**	EPA 245.1	MERP/7576	EPA 245.1	MERC/7531
60150301001	**316-33**	EPA 625	OEXT/39759	EPA 625	MSSV/12606
60150301001	**316-33**	EPA 624 Low	MSV/55457		
60150301002	**TRIP BLANK**	EPA 624 Low	MSV/55457		
60150301001	**316-33**	EPA 1664A	WET/42723		
60150301001	**316-33**	EPA 1664A	WET/42743		
60150301001	**316-33**	SM 2540D	WET/42735		
60150301001	**316-33**	SM 4500-H+B	WET/42739		
60150301001	**316-33**	EPA 350.1	WETA/25712		
60150301001	**316-33**	EPA 410.4	WETA/25717		

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Sample Condition Upon Receipt

WO# : 60150301

60150301

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-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: PV 8/5/13

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. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 ml of HNO3 to BP3N. pH 6.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A PV 8/5	14. Added 2.0 ml H2SO4 to ~~BP3N~~ BP3S. pH 6.0/3.0 PV 8/5/13
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed PV / Lot # of added preservative 12510/12518
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/7/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique MATRIX: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60150301
1	3/6-033 2BP2U 1BP3S 3-0	OT	G	8/5/13	642	1BP3N 3-0	5DG4U		15 10	1	1	3	3AG1H			X	X	X	X	X	X	X	X	X	X	3AG1U		METALS LIST total & LF Dis:
2	TRIP BLANK 2DG4U								2	2													X					Al,Sb,As,Be,Cd,Cr,
3																												Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																												and Mercury
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/5/13	925	[illegible] 412	8-5-13	915				
SITE ADDRESS: BRIDGETON LF				PAST	8/5/13	1315	1.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	Hunter King		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/5/13				

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August 12, 2013

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

RE: Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-034
Pace Project No.: 60150406

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 316-034
Pace Project No.: 60150406

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150406001	**316-034**	Water	08/06/13 06:45	08/07/13 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150406001	**316-034**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

Sample: 316-034 **Lab ID: 60150406001** Collected: 08/06/13 06:45 Received: 08/07/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**39000**	mg/L	2.0	1	08/07/13 16:09	08/12/13 11:19		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

QC Batch: WET/42765 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150406001

METHOD BLANK: 1232451 Matrix: Water
Associated Lab Samples: 60150406001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/12/13 11:16	

LABORATORY CONTROL SAMPLE: 1232452

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	220	111	85-115	

SAMPLE DUPLICATE: 1232453

Parameter	Units	60150406001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	39000	41500	6	17	

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QUALIFIERS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-034
Pace Project No.: 60150406

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150406001	**316-034**	SM 5210B	WET/42765	SM 5210B	WET/42828

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60150406

60150406

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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: 6.9

Date and initials of person examining contents: 8.9

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/7/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60150406
1	316-034	OT	G	8/6/13	615				1	1									X		4120 (4)
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/6/13	1219	Emily Heiken	8/6/13	12:20pm				
SITE ADDRESS: BRIDGETON LF	Emily Heiken	8/6/13	1620	RH 554	8/6/13	1620				
13570 ST. CHARLES ROCK RD				[signature] / PASI	8/7/13	0205	4.9	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King DATE Signed: 8/6/13

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

August 15, 2013

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

RE: Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-034
Pace Project No.: 60150422

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 316-034
Pace Project No.: 60150422

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150422001	**316-034**	Water	08/06/13 06:45	08/07/13 02:05
60150422002	**TRIP BLANK**	Water	08/06/13 06:45	08/07/13 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150422001	**316-034**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150422002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Sample: 316-034 **Lab ID: 60150422001** Collected: 08/06/13 06:45 Received: 08/07/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9010**	ug/L	150	2	08/08/13 16:20	08/09/13 11:50	7429-90-5	
Antimony	**36.8**	ug/L	20.0	2	08/08/13 16:20	08/09/13 11:50	7440-36-0	
Arsenic	**656**	ug/L	20.0	2	08/08/13 16:20	08/09/13 11:50	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 11:54	7440-41-7	D3
Cadmium	**13.6**	ug/L	10.0	2	08/08/13 16:20	08/09/13 11:50	7440-43-9	
Chromium	**247**	ug/L	25.0	5	08/08/13 16:20	08/09/13 11:54	7440-47-3	
Cobalt	**58.8**	ug/L	10.0	2	08/08/13 16:20	08/09/13 11:50	7440-48-4	
Copper	ND	ug/L	20.0	2	08/08/13 16:20	08/09/13 11:50	7440-50-8	D3
Iron	**849000**	ug/L	100	2	08/08/13 16:20	08/09/13 11:50	7439-89-6	
Lead	**202**	ug/L	10.0	2	08/08/13 16:20	08/09/13 11:50	7439-92-1	
Nickel	**140**	ug/L	10.0	2	08/08/13 16:20	08/09/13 11:50	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 11:54	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 11:50	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/08/13 16:20	08/09/13 11:54	7440-28-0	D3
Zinc	**12700**	ug/L	1000	20	08/08/13 16:20	08/09/13 11:57	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3750**	ug/L	150	2	08/08/13 16:20	08/09/13 09:55	7429-90-5	
Antimony, Dissolved	**36.3**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:55	7440-36-0	
Arsenic, Dissolved	**546**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:55	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 10:28	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:55	7440-43-9	D3
Chromium, Dissolved	**220**	ug/L	25.0	5	08/08/13 16:20	08/09/13 10:28	7440-47-3	
Cobalt, Dissolved	**44.9**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:55	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:55	7440-50-8	D3
Iron, Dissolved	**603000**	ug/L	100	2	08/08/13 16:20	08/09/13 09:55	7439-89-6	
Lead, Dissolved	**83.2**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:55	7439-92-1	
Nickel, Dissolved	**125**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:55	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 10:28	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 09:55	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/08/13 16:20	08/09/13 10:28	7440-28-0	D3
Zinc, Dissolved	**11200**	ug/L	1000	20	08/08/13 16:20	08/09/13 10:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/08/13 09:45	08/08/13 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	08/15/13 11:10	08/15/13 15:00	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/09/13 00:00	08/13/13 17:20	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Sample: 316-034 **Lab ID: 60150422001** Collected: 08/06/13 06:45 Received: 08/07/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	87-86-5	
Phenol	**16800**	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/09/13 00:00	08/13/13 17:20	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/09/13 00:00	08/13/13 17:20	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/09/13 00:00	08/13/13 17:20	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/09/13 00:00	08/13/13 17:20	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/09/13 00:00	08/13/13 17:20	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/09/13 00:00	08/13/13 17:20	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/09/13 00:00	08/13/13 17:20	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/08/13 14:59	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/08/13 14:59	75-27-4	
Bromoform	ND	ug/L	200	200		08/08/13 14:59	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/08/13 14:59	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/08/13 14:59	56-23-5	
Chloroethane	ND	ug/L	200	200		08/08/13 14:59	75-00-3	
Chloroform	ND	ug/L	200	200		08/08/13 14:59	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/08/13 14:59	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/08/13 14:59	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 14:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 14:59	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/08/13 14:59	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/08/13 14:59	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/08/13 14:59	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/08/13 14:59	127-18-4	
Toluene	ND	ug/L	200	200		08/08/13 14:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/08/13 14:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/08/13 14:59	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/08/13 14:59	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/08/13 14:59	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/08/13 14:59	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	93	%	80-120	200		08/08/13 14:59	1868-53-7	D3
4-Bromofluorobenzene (S)	99	%	80-120	200		08/08/13 14:59	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		08/08/13 14:59	2037-26-5	
1,2-Dichloroethane-d4 (S)	90	%	80-120	200		08/08/13 14:59	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/08/13 14:59		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**76.3**	mg/L	5.0	1		08/08/13 13:19		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/12/13 08:42		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Sample: 316-034 **Lab ID: 60150422001** Collected: 08/06/13 06:45 Received: 08/07/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1100**	mg/L	5.0	1		08/13/13 10:48		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		08/08/13 13:45		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**654**	mg/L	20.0	200		08/08/13 14:47	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**44100**	mg/L	5000	500		08/13/13 15:54		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Sample: TRIP BLANK **Lab ID: 60150422002** Collected: 08/06/13 06:45 Received: 08/07/13 02:05 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		08/08/13 15:20	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/08/13 15:20	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/08/13 15:20	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/08/13 15:20	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/08/13 15:20	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/08/13 15:20	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/08/13 15:20	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/08/13 15:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/08/13 15:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 15:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 15:20	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/08/13 15:20	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/08/13 15:20	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/08/13 15:20	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/08/13 15:20	127-18-4	
Toluene	ND	ug/L	1.0	1		08/08/13 15:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/08/13 15:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/08/13 15:20	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/08/13 15:20	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/08/13 15:20	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/08/13 15:20	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	88	%	80-120	1		08/08/13 15:20	1868-53-7	
4-Bromofluorobenzene (S)	98	%	80-120	1		08/08/13 15:20	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		08/08/13 15:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	87	%	80-120	1		08/08/13 15:20	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/08/13 15:20		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: MERP/7584
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150422001

METHOD BLANK: 1232851 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/08/13 14:11	

LABORATORY CONTROL SAMPLE: 1232852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232853 1232854

Parameter	Units	60150463002 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	4.4	4.4	88	87	70-130	1	20	

MATRIX SPIKE SAMPLE: 1232855

Parameter	Units	60150441002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	89	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: MERP/7594
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150422001

METHOD BLANK: 1235701 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 14:56	

LABORATORY CONTROL SAMPLE: 1235702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235703 1235704

Parameter	Units	60150422001 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	2.0	2.0	40	40	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: MPRP/23789
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150422001

METHOD BLANK: 1233290 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/09/13 11:03	
Antimony	ug/L	ND	10.0	08/09/13 11:03	
Arsenic	ug/L	ND	10.0	08/09/13 11:03	
Beryllium	ug/L	ND	1.0	08/09/13 11:03	
Cadmium	ug/L	ND	5.0	08/09/13 11:03	
Chromium	ug/L	ND	5.0	08/09/13 11:03	
Cobalt	ug/L	ND	5.0	08/09/13 11:03	
Copper	ug/L	ND	10.0	08/09/13 11:03	
Iron	ug/L	ND	50.0	08/09/13 11:03	
Lead	ug/L	ND	5.0	08/09/13 11:03	
Nickel	ug/L	ND	5.0	08/09/13 11:03	
Selenium	ug/L	ND	15.0	08/09/13 11:03	
Silver	ug/L	ND	7.0	08/09/13 11:03	
Thallium	ug/L	ND	20.0	08/09/13 11:03	
Zinc	ug/L	ND	50.0	08/09/13 11:03	

LABORATORY CONTROL SAMPLE: 1233291

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10100	101	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	988	99	85-115	
Cadmium	ug/L	1000	980	98	85-115	
Chromium	ug/L	1000	985	98	85-115	
Cobalt	ug/L	1000	994	99	85-115	
Copper	ug/L	1000	967	97	85-115	
Iron	ug/L	10000	9690	97	85-115	
Lead	ug/L	1000	978	98	85-115	
Nickel	ug/L	1000	998	100	85-115	
Selenium	ug/L	1000	982	98	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	958	96	85-115	
Zinc	ug/L	1000	975	98	85-115	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233292 1233293

Parameter	Units	60150551002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	0.58 mg/L	10000	10000	10200	10300	96	97	70-130	1	8	
Antimony	ug/L	ND	1000	1000	1040	1040	103	104	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	1090	1100	108	109	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	896	898	90	90	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	1070	1080	107	108	70-130	1	10	
Chromium	ug/L	0.039 mg/L	1000	1000	920	927	88	89	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	875	878	87	88	70-130	0	6	
Copper	ug/L	0.073 mg/L	1000	1000	1130	1140	106	106	70-130	0	11	
Iron	ug/L	0.056 mg/L	10000	10000	8840	8870	88	88	70-130	0	10	
Lead	ug/L	ND	1000	1000	824	824	82	82	70-130	0	10	
Nickel	ug/L	0.047 mg/L	1000	1000	906	909	86	86	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1310	1320	131	132	70-130	0	10	M1
Silver	ug/L	ND	500	500	563	570	113	114	70-130	1	10	
Thallium	ug/L	ND	1000	1000	735	743	73	74	70-130	1	6	
Zinc	ug/L	ND	1000	1000	953	953	93	93	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: MPRP/23784
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150422001

METHOD BLANK: 1233265 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/09/13 09:20	
Antimony, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Arsenic, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Beryllium, Dissolved	ug/L	ND	1.0	08/09/13 09:20	
Cadmium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Chromium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Cobalt, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Copper, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Iron, Dissolved	ug/L	ND	50.0	08/09/13 09:20	
Lead, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Nickel, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Selenium, Dissolved	ug/L	ND	15.0	08/09/13 09:20	
Silver, Dissolved	ug/L	ND	7.0	08/09/13 09:20	
Thallium, Dissolved	ug/L	ND	20.0	08/09/13 09:20	
Zinc, Dissolved	ug/L	ND	50.0	08/09/13 09:20	

LABORATORY CONTROL SAMPLE: 1233266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	987	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	986	99	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	996	100	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	988	99	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1050	1040	104	103	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	998	987	100	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	11	
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	514	510	103	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	988	978	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	ND	1000	1000	996	987	99	98	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: MSV/55457 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150422001, 60150422002

METHOD BLANK: 1232937 Matrix: Water
Associated Lab Samples: 60150422001, 60150422002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/08/13 11:47	
Benzene	ug/L	ND	1.0	08/08/13 11:47	
Bromodichloromethane	ug/L	ND	1.0	08/08/13 11:47	
Bromoform	ug/L	ND	1.0	08/08/13 11:47	
Bromomethane	ug/L	ND	5.0	08/08/13 11:47	
Carbon tetrachloride	ug/L	ND	1.0	08/08/13 11:47	
Chloroethane	ug/L	ND	1.0	08/08/13 11:47	
Chloroform	ug/L	ND	1.0	08/08/13 11:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Ethylbenzene	ug/L	ND	1.0	08/08/13 11:47	
Methylene chloride	ug/L	ND	1.0	08/08/13 11:47	
Tetrachloroethene	ug/L	ND	1.0	08/08/13 11:47	
Toluene	ug/L	ND	1.0	08/08/13 11:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Trichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Vinyl chloride	ug/L	ND	1.0	08/08/13 11:47	
Xylene (Total)	ug/L	ND	3.0	08/08/13 11:47	
1,2-Dichloroethane-d4 (S)	%	90	80-120	08/08/13 11:47	
4-Bromofluorobenzene (S)	%	99	80-120	08/08/13 11:47	
Toluene-d8 (S)	%	95	80-120	08/08/13 11:47	

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	20.0	100	68-124	
Benzene	ug/L	20	17.8	89	73-129	
Bromodichloromethane	ug/L	20	15.1	75	63-129	
Bromoform	ug/L	20	18.9	94	52-123	
Bromomethane	ug/L	20	21.6	108	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.4	82	42-160	
Chloroform	ug/L	20	14.5	72	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.2	86	66-133	
Methylene chloride	ug/L	20	16.6	83	56-135	
Tetrachloroethene	ug/L	20	18.2	91	64-143	
Toluene	ug/L	20	17.2	86	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.3	81	67-149	
Trichloroethene	ug/L	20	14.6	73	71-130	
Vinyl chloride	ug/L	20	17.7	89	41-160	
Xylene (Total)	ug/L	60	54.7	91	67-130	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1232939

Parameter	Units	60150295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2540	63	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3740	93	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2900	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2700	68	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	85	18-147	
Benzene	ug/L	ND	4000	3090	77	37-151	
Bromodichloromethane	ug/L	ND	4000	2540	63	35-155	
Bromoform	ug/L	ND	4000	3070	74	45-133	
Bromomethane	ug/L	ND	4000	3550	89	10-160	
Carbon tetrachloride	ug/L	ND	4000	2550	64	70-140	M1
Chloroethane	ug/L	ND	4000	2680	67	14-160	
Chloroform	ug/L	ND	4000	2470	61	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2570	64	19-160	
Ethylbenzene	ug/L	ND	4000	2850	71	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3100	76	64-148	
Toluene	ug/L	ND	4000	2930	71	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2750	69	54-156	
Trichloroethene	ug/L	ND	4000	2450	61	71-157	M1
Vinyl chloride	ug/L	ND	4000	2990	75	10-160	
Xylene (Total)	ug/L	ND	12000	9220	77	12-153	
1,2-Dichloroethane-d4 (S)	%				85	80-120	
4-Bromofluorobenzene (S)	%				110	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: OEXT/39759
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150422001

METHOD BLANK: 1233568
Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/12/13 09:14	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/12/13 09:14	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/12/13 09:14	
Hexachloroethane	ug/L	ND	5.0	08/12/13 09:14	
Naphthalene	ug/L	ND	5.0	08/12/13 09:14	
Nitrobenzene	ug/L	ND	5.0	08/12/13 09:14	
Pentachlorophenol	ug/L	ND	5.0	08/12/13 09:14	
Phenol	ug/L	ND	5.0	08/12/13 09:14	
2,4,6-Tribromophenol (S)	%	76	39-119	08/12/13 09:14	
2-Fluorobiphenyl (S)	%	76	36-120	08/12/13 09:14	
2-Fluorophenol (S)	%	43	18-120	08/12/13 09:14	
Nitrobenzene-d5 (S)	%	75	32-120	08/12/13 09:14	
Phenol-d6 (S)	%	29	12-120	08/12/13 09:14	
Terphenyl-d14 (S)	%	75	44-120	08/12/13 09:14	

LABORATORY CONTROL SAMPLE: 1233569

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	40.2	80	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.3	87	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.9	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.7	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	75.4	75	31-120	
Hexachloroethane	ug/L	50	39.8	80	40-113	
Naphthalene	ug/L	50	42.0	84	48-120	
Nitrobenzene	ug/L	50	42.5	85	47-120	
Pentachlorophenol	ug/L	50	46.4	93	43-127	
Phenol	ug/L	50	16.8	34	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			85	36-120	
2-Fluorophenol (S)	%			49	18-120	
Nitrobenzene-d5 (S)	%			80	32-120	
Phenol-d6 (S)	%			33	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

MATRIX SPIKE SAMPLE: 1233570

Parameter	Units	60150323001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.3	67	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	38.1	76	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	6.7J	13	27-146	M1
Hexachloro-1,3-butadiene	ug/L	ND	50	32.5	65	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	23.3	23	11-120	
Hexachloroethane	ug/L	ND	50	30.5	61	40-113	
Naphthalene	ug/L	ND	50	34.3	69	32-120	
Nitrobenzene	ug/L	ND	50	35.2	70	35-128	
Pentachlorophenol	ug/L	ND	50	40.1	80	38-133	
Phenol	ug/L	ND	50	15.1	30	13-112	
2,4,6-Tribromophenol (S)	%				77	39-119	
2-Fluorobiphenyl (S)	%				72	36-120	
2-Fluorophenol (S)	%				41	18-120	
Nitrobenzene-d5 (S)	%				66	32-120	
Phenol-d6 (S)	%				29	12-120	
Terphenyl-d14 (S)	%				92	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: WET/42769
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150422001

METHOD BLANK: 1232615 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/08/13 13:18	

LABORATORY CONTROL SAMPLE: 1232616

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: 1232619

Parameter	Units	60150456001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	9.3	40.4	39.7	75	78-114	M1

SAMPLE DUPLICATE: 1232620

Parameter	Units	60150457004 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 316-034
Pace Project No.: 60150422

QC Batch: WET/42823
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150422001

METHOD BLANK: 1234848 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/12/13 08:41	

LABORATORY CONTROL SAMPLE: 1234849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.1	106	64-132	

MATRIX SPIKE SAMPLE: 1234855

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.9	58	64-132	M1

SAMPLE DUPLICATE: 1234856

Parameter	Units	60150388001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: WET/42847 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150422001

METHOD BLANK: 1235268 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/13/13 10:48	

SAMPLE DUPLICATE: 1235269

Parameter	Units	60150422001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1100	1040	6	25	

SAMPLE DUPLICATE: 1235270

Parameter	Units	60150850002 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 316-034
Pace Project No.: 60150422

QC Batch: WET/42771
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150422001

SAMPLE DUPLICATE: 1232634

Parameter	Units	60150420001 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 316-034
Pace Project No.: 60150422

QC Batch: WETA/25730 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150422001

METHOD BLANK: 1233021 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/08/13 14:25	

LABORATORY CONTROL SAMPLE: 1233022

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

MATRIX SPIKE SAMPLE: 1233023

Parameter	Units	60150132002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.9	95	90-110	

MATRIX SPIKE SAMPLE: 1233026

Parameter	Units	60150044003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.40	2	2.0	81	90-110	M1

SAMPLE DUPLICATE: 1233024

Parameter	Units	60150134005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

QC Batch: WETA/25768
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60150422001

METHOD BLANK: 1234986 Matrix: Water
Associated Lab Samples: 60150422001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/13/13 15:34	

LABORATORY CONTROL SAMPLE: 1234987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	47.7	95	90-110	

MATRIX SPIKE SAMPLE: 1234988

Parameter	Units	60149911002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	36.1	50	67.2	62	90-110	M1

MATRIX SPIKE SAMPLE: 1234990

Parameter	Units	60150157001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	39.3	79	90-110	M1

SAMPLE DUPLICATE: 1234989

Parameter	Units	60149925002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	72.4	69.8	4	25	

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QUALIFIERS

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-034
Pace Project No.: 60150422

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150422001	**316-034**	EPA 200.7	MPRP/23789	EPA 200.7	ICP/18644
60150422001	**316-034**	EPA 200.7	MPRP/23784	EPA 200.7	ICP/18641
60150422001	**316-034**	EPA 245.1	MERP/7584	EPA 245.1	MERC/7539
60150422001	**316-034**	EPA 245.1	MERP/7594	EPA 245.1	MERC/7553
60150422001	**316-034**	EPA 625	OEXT/39759	EPA 625	MSSV/12606
60150422001	**316-034**	EPA 624 Low	MSV/55457		
60150422002	**TRIP BLANK**	EPA 624 Low	MSV/55457		
60150422001	**316-034**	EPA 1664A	WET/42769		
60150422001	**316-034**	EPA 1664A	WET/42823		
60150422001	**316-034**	SM 2540D	WET/42847		
60150422001	**316-034**	SM 4500-H+B	WET/42771		
60150422001	**316-034**	EPA 350.1	WETA/25730		
60150422001	**316-034**	EPA 410.4	WETA/25768		

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Sample Condition Upon Receipt

WO# : 60150422

60150422

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: [initials] 8/7

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☑No ☐N/A	HNO3 & H2SO4 volume initial pH @ ~6.0 added 2.0 mL H2SO4 & 2.5 mL HNO3.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14. Final pH's ~3.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed [initials] Lot # of added preservative 125.0
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. 5 of 5 sample ~~vail~~ vials have HS FOOTNOTE
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: Apply HS FOOTNOTE → email client; proceed per Bill

Project Manager Review: [signature] Date: 8/7/13

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

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	
1	316-034	OT	G	8/6/13	0645				1	1	1	1	2						X	X	X	X	X	X	X	X	X				
2	TRIP BLANK								2	2																X		2(HCl)			
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

6015042 2

3(ASLH) 3(AGU) 2(GPU) 5(1)(GU) HAP3N 1.0 HAP3S 2.0

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

(2)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/6/13	1219	Emily Hulker	8/6/13	1220				
SITE ADDRESS: BRIDGETON LF	Emily Hulker	8/6/13	1620	DT 554	8/6/13	1620				
13570 ST. CHARLES ROCK RD				PASI	8/7/13	0705	4.9	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/6/13				

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August 15, 2013

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

RE: Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

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 316-035
Pace Project No.: 60150553

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150553001	**316-035**	Water	08/07/13 12:42	08/08/13 00:05
60150553002	**TRIP BLANK**	Water	08/07/13 12:42	08/08/13 00:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150553001	**316-035**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	NDJ	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150553002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Sample: 316-035 **Lab ID: 60150553001** Collected: 08/07/13 12:42 Received: 08/08/13 00:05 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	**13900**	ug/L	150	2	08/09/13 15:15	08/14/13 15:43	7429-90-5	
Antimony	**38.0**	ug/L	20.0	2	08/09/13 15:15	08/14/13 15:43	7440-36-0	
Arsenic	**704**	ug/L	20.0	2	08/09/13 15:15	08/14/13 15:43	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/09/13 15:15	08/14/13 15:47	7440-41-7	D3
Cadmium	**19.7**	ug/L	10.0	2	08/09/13 15:15	08/14/13 15:43	7440-43-9	
Chromium	**285**	ug/L	25.0	5	08/09/13 15:15	08/14/13 15:47	7440-47-3	
Cobalt	**63.9**	ug/L	10.0	2	08/09/13 15:15	08/14/13 15:43	7440-48-4	
Copper	**84.3**	ug/L	20.0	2	08/09/13 15:15	08/14/13 15:43	7440-50-8	
Iron	**874000**	ug/L	100	2	08/09/13 15:15	08/14/13 15:43	7439-89-6	
Lead	**253**	ug/L	10.0	2	08/09/13 15:15	08/14/13 15:43	7439-92-1	
Nickel	**158**	ug/L	10.0	2	08/09/13 15:15	08/14/13 15:43	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/09/13 15:15	08/14/13 15:47	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/09/13 15:15	08/14/13 15:43	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/09/13 15:15	08/14/13 15:47	7440-28-0	D3
Zinc	**14400**	ug/L	1000	20	08/09/13 15:15	08/14/13 15:50	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3500**	ug/L	150	2	08/08/13 16:20	08/09/13 09:58	7429-90-5	
Antimony, Dissolved	**40.7**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:58	7440-36-0	D9
Arsenic, Dissolved	**529**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:58	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/08/13 16:20	08/09/13 10:31	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:58	7440-43-9	D3
Chromium, Dissolved	**215**	ug/L	25.0	5	08/08/13 16:20	08/09/13 10:31	7440-47-3	
Cobalt, Dissolved	**46.3**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:58	7440-48-4	
Copper, Dissolved	**20.6**	ug/L	20.0	2	08/08/13 16:20	08/09/13 09:58	7440-50-8	
Iron, Dissolved	**545000**	ug/L	100	2	08/08/13 16:20	08/09/13 09:58	7439-89-6	
Lead, Dissolved	**87.4**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:58	7439-92-1	
Nickel, Dissolved	**130**	ug/L	10.0	2	08/08/13 16:20	08/09/13 09:58	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/08/13 16:20	08/09/13 10:31	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/08/13 16:20	08/09/13 09:58	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/08/13 16:20	08/09/13 10:31	7440-28-0	D3
Zinc, Dissolved	**11100**	ug/L	1000	20	08/08/13 16:20	08/09/13 10:47	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.92**	ug/L	0.20	1	08/08/13 09:45	08/08/13 14:57	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	08/15/13 11:10	08/15/13 15:02	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/12/13 00:00	08/13/13 18:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Sample: 316-035 **Lab ID: 60150553001** Collected: 08/07/13 12:42 Received: 08/08/13 00:05 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	20	08/12/13 00:00	08/13/13 18:43	87-86-5	
Phenol	**17200**	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/12/13 00:00	08/13/13 18:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/12/13 00:00	08/13/13 18:43	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/12/13 00:00	08/13/13 18:43	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/12/13 00:00	08/13/13 18:43	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/12/13 00:00	08/13/13 18:43	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/12/13 00:00	08/13/13 18:43	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/12/13 00:00	08/13/13 18:43	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/08/13 16:03	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/08/13 16:03	75-27-4	
Bromoform	ND	ug/L	200	200		08/08/13 16:03	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/08/13 16:03	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/08/13 16:03	56-23-5	
Chloroethane	ND	ug/L	200	200		08/08/13 16:03	75-00-3	
Chloroform	ND	ug/L	200	200		08/08/13 16:03	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/08/13 16:03	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/08/13 16:03	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 16:03	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/08/13 16:03	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/08/13 16:03	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/08/13 16:03	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/08/13 16:03	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/08/13 16:03	127-18-4	
Toluene	ND	ug/L	200	200		08/08/13 16:03	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/08/13 16:03	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/08/13 16:03	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/08/13 16:03	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/08/13 16:03	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/08/13 16:03	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	91	%	80-120	200		08/08/13 16:03	1868-53-7	D3
4-Bromofluorobenzene (S)	104	%	80-120	200		08/08/13 16:03	460-00-4	
Toluene-d8 (S)	93	%	80-120	200		08/08/13 16:03	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	200		08/08/13 16:03	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/08/13 16:03		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**753**	mg/L	5.0	1		08/09/13 07:10		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/12/13 08:44		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Sample: 316-035 **Lab ID: 60150553001** Collected: 08/07/13 12:42 Received: 08/08/13 00:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2200**	mg/L	5.0	1		08/13/13 10:57		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.4**	Std. Units	0.10	1		08/09/13 15:00		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**726**	mg/L	20.0	200		08/09/13 16:22	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**41700**	mg/L	5000	500		08/13/13 16:10		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Sample: TRIP BLANK **Lab ID: 60150553002** Collected: 08/07/13 12:42 Received: 08/08/13 00:05 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		08/08/13 16:24	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/08/13 16:24	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/08/13 16:24	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/08/13 16:24	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/08/13 16:24	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/08/13 16:24	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/08/13 16:24	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/08/13 16:24	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/08/13 16:24	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 16:24	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/08/13 16:24	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/08/13 16:24	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/08/13 16:24	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/08/13 16:24	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/08/13 16:24	127-18-4	
Toluene	ND	ug/L	1.0	1		08/08/13 16:24	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/08/13 16:24	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/08/13 16:24	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/08/13 16:24	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/08/13 16:24	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/08/13 16:24	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	90	%	80-120	1		08/08/13 16:24	1868-53-7	
4-Bromofluorobenzene (S)	98	%	80-120	1		08/08/13 16:24	460-00-4	
Toluene-d8 (S)	95	%	80-120	1		08/08/13 16:24	2037-26-5	
1,2-Dichloroethane-d4 (S)	92	%	80-120	1		08/08/13 16:24	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/08/13 16:24		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: MERP/7584
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150553001

METHOD BLANK: 1232851 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/08/13 14:11	

LABORATORY CONTROL SAMPLE: 1232852

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1232853 1232854

Parameter	Units	60150463002 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	4.4	4.4	88	87	70-130	1	20	

MATRIX SPIKE SAMPLE: 1232855

Parameter	Units	60150441002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.6	89	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: MERP/7594
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150553001

METHOD BLANK: 1235701 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 14:56	

LABORATORY CONTROL SAMPLE: 1235702

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	88	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235703 1235704

Parameter	Units	60150422001 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	2.0	2.0	40	40	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: MPRP/23801
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150553001

METHOD BLANK: 1233906 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/14/13 14:21	
Antimony	ug/L	ND	10.0	08/14/13 14:21	
Arsenic	ug/L	ND	10.0	08/14/13 14:21	
Beryllium	ug/L	ND	1.0	08/14/13 14:21	
Cadmium	ug/L	ND	5.0	08/14/13 14:21	
Chromium	ug/L	ND	5.0	08/14/13 14:21	
Cobalt	ug/L	ND	5.0	08/14/13 14:21	
Copper	ug/L	ND	10.0	08/14/13 14:21	
Iron	ug/L	ND	50.0	08/14/13 14:21	
Lead	ug/L	ND	5.0	08/14/13 14:21	
Nickel	ug/L	ND	5.0	08/14/13 14:21	
Selenium	ug/L	ND	15.0	08/14/13 14:21	
Silver	ug/L	ND	7.0	08/14/13 14:21	
Thallium	ug/L	ND	20.0	08/14/13 14:21	
Zinc	ug/L	ND	50.0	08/14/13 14:21	

LABORATORY CONTROL SAMPLE: 1233907

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9850	98	85-115	
Antimony	ug/L	1000	973	97	85-115	
Arsenic	ug/L	1000	939	94	85-115	
Beryllium	ug/L	1000	995	99	85-115	
Cadmium	ug/L	1000	966	97	85-115	
Chromium	ug/L	1000	979	98	85-115	
Cobalt	ug/L	1000	992	99	85-115	
Copper	ug/L	1000	933	93	85-115	
Iron	ug/L	10000	9950	99	85-115	
Lead	ug/L	1000	992	99	85-115	
Nickel	ug/L	1000	1010	101	85-115	
Selenium	ug/L	1000	969	97	85-115	
Silver	ug/L	500	475	95	85-115	
Thallium	ug/L	1000	1000	100	85-115	
Zinc	ug/L	1000	999	100	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233908 1233909

Parameter	Units	60150665001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	192	10000	10000	10100	10000	99	98	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233908 1233909

Parameter	Units	60150665001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1000	992	100	99	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	984	973	98	97	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	1010	999	101	100	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	983	976	98	98	70-130	1	10	
Chromium	ug/L	7.2	1000	1000	986	979	98	97	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	978	969	98	97	70-130	1	6	
Copper	ug/L	42.5	1000	1000	1020	1010	98	97	70-130	1	11	
Iron	ug/L	322	10000	10000	10200	10100	99	98	70-130	1	10	
Lead	ug/L	ND	1000	1000	970	965	97	96	70-130	1	10	
Nickel	ug/L	11.2	1000	1000	1000	995	99	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1000	995	100	99	70-130	1	10	
Silver	ug/L	ND	500	500	484	480	97	96	70-130	1	10	
Thallium	ug/L	ND	1000	1000	937	935	94	93	70-130	0	6	
Zinc	ug/L	910	1000	1000	1870	1870	96	96	70-130	0	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: MPRP/23784
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150553001

METHOD BLANK: 1233265 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/09/13 09:20	
Antimony, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Arsenic, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Beryllium, Dissolved	ug/L	ND	1.0	08/09/13 09:20	
Cadmium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Chromium, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Cobalt, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Copper, Dissolved	ug/L	ND	10.0	08/09/13 09:20	
Iron, Dissolved	ug/L	ND	50.0	08/09/13 09:20	
Lead, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Nickel, Dissolved	ug/L	ND	5.0	08/09/13 09:20	
Selenium, Dissolved	ug/L	ND	15.0	08/09/13 09:20	
Silver, Dissolved	ug/L	ND	7.0	08/09/13 09:20	
Thallium, Dissolved	ug/L	ND	20.0	08/09/13 09:20	
Zinc, Dissolved	ug/L	ND	50.0	08/09/13 09:20	

LABORATORY CONTROL SAMPLE: 1233266

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10400	104	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	987	99	85-115	
Beryllium, Dissolved	ug/L	1000	1040	104	85-115	
Cadmium, Dissolved	ug/L	1000	1000	100	85-115	
Chromium, Dissolved	ug/L	1000	1020	102	85-115	
Cobalt, Dissolved	ug/L	1000	1020	102	85-115	
Copper, Dissolved	ug/L	1000	986	99	85-115	
Iron, Dissolved	ug/L	10000	10400	104	85-115	
Lead, Dissolved	ug/L	1000	1010	101	85-115	
Nickel, Dissolved	ug/L	1000	1030	103	85-115	
Selenium, Dissolved	ug/L	1000	996	100	85-115	
Silver, Dissolved	ug/L	500	511	102	85-115	
Thallium, Dissolved	ug/L	1000	988	99	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1233267 1233268

Parameter	Units	60150334001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1050	1040	104	103	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	1020	1010	101	100	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1040	1030	104	103	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	998	987	100	99	70-130	1	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	11	
Iron, Dissolved	ug/L	ND	10000	10000	10300	10200	103	102	70-130	1	10	
Lead, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Nickel, Dissolved	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	514	510	103	102	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	988	978	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	ND	1000	1000	996	987	99	98	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: MSV/55457 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150553001, 60150553002

METHOD BLANK: 1232937 Matrix: Water
Associated Lab Samples: 60150553001, 60150553002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/08/13 11:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/08/13 11:47	
Benzene	ug/L	ND	1.0	08/08/13 11:47	
Bromodichloromethane	ug/L	ND	1.0	08/08/13 11:47	
Bromoform	ug/L	ND	1.0	08/08/13 11:47	
Bromomethane	ug/L	ND	5.0	08/08/13 11:47	
Carbon tetrachloride	ug/L	ND	1.0	08/08/13 11:47	
Chloroethane	ug/L	ND	1.0	08/08/13 11:47	
Chloroform	ug/L	ND	1.0	08/08/13 11:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Ethylbenzene	ug/L	ND	1.0	08/08/13 11:47	
Methylene chloride	ug/L	ND	1.0	08/08/13 11:47	
Tetrachloroethene	ug/L	ND	1.0	08/08/13 11:47	
Toluene	ug/L	ND	1.0	08/08/13 11:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Trichloroethene	ug/L	ND	1.0	08/08/13 11:47	
Vinyl chloride	ug/L	ND	1.0	08/08/13 11:47	
Xylene (Total)	ug/L	ND	3.0	08/08/13 11:47	
1,2-Dichloroethane-d4 (S)	%	90	80-120	08/08/13 11:47	
4-Bromofluorobenzene (S)	%	99	80-120	08/08/13 11:47	
Toluene-d8 (S)	%	95	80-120	08/08/13 11:47	

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	14.8	74	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.2	106	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	16.2	81	71-129	
1,4-Dichlorobenzene	ug/L	20	20.0	100	68-124	
Benzene	ug/L	20	17.8	89	73-129	
Bromodichloromethane	ug/L	20	15.1	75	63-129	
Bromoform	ug/L	20	18.9	94	52-123	
Bromomethane	ug/L	20	21.6	108	10-160	
Carbon tetrachloride	ug/L	20	15.1	76	70-140	
Chloroethane	ug/L	20	16.4	82	42-160	
Chloroform	ug/L	20	14.5	72	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

LABORATORY CONTROL SAMPLE: 1232938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.2	86	66-133	
Methylene chloride	ug/L	20	16.6	83	56-135	
Tetrachloroethene	ug/L	20	18.2	91	64-143	
Toluene	ug/L	20	17.2	86	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.3	81	67-149	
Trichloroethene	ug/L	20	14.6	73	71-130	
Vinyl chloride	ug/L	20	17.7	89	41-160	
Xylene (Total)	ug/L	60	54.7	91	67-130	
1,2-Dichloroethane-d4 (S)	%			86	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			93	80-120	

MATRIX SPIKE SAMPLE: 1232939

Parameter	Units	60150295001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	2540	63	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3740	93	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2900	72	52-150	
1,2-Dichloroethane	ug/L	ND	4000	2700	68	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3480	85	18-147	
Benzene	ug/L	ND	4000	3090	77	37-151	
Bromodichloromethane	ug/L	ND	4000	2540	63	35-155	
Bromoform	ug/L	ND	4000	3070	74	45-133	
Bromomethane	ug/L	ND	4000	3550	89	10-160	
Carbon tetrachloride	ug/L	ND	4000	2550	64	70-140	M1
Chloroethane	ug/L	ND	4000	2680	67	14-160	
Chloroform	ug/L	ND	4000	2470	61	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	2570	64	19-160	
Ethylbenzene	ug/L	ND	4000	2850	71	37-154	
Methylene chloride	ug/L	ND	4000	2800	70	15-156	
Tetrachloroethene	ug/L	ND	4000	3100	76	64-148	
Toluene	ug/L	ND	4000	2930	71	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	2750	69	54-156	
Trichloroethene	ug/L	ND	4000	2450	61	71-157	M1
Vinyl chloride	ug/L	ND	4000	2990	75	10-160	
Xylene (Total)	ug/L	ND	12000	9220	77	12-153	
1,2-Dichloroethane-d4 (S)	%				85	80-120	
4-Bromofluorobenzene (S)	%				110	80-120	
Toluene-d8 (S)	%				94	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: OEXT/39790
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150553001

METHOD BLANK: 1234813 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/13/13 08:42	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/13/13 08:42	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/13/13 08:42	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/13/13 08:42	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/13/13 08:42	
Hexachloroethane	ug/L	ND	5.0	08/13/13 08:42	
Naphthalene	ug/L	ND	5.0	08/13/13 08:42	
Nitrobenzene	ug/L	ND	5.0	08/13/13 08:42	
Pentachlorophenol	ug/L	ND	5.0	08/13/13 08:42	
Phenol	ug/L	ND	5.0	08/13/13 08:42	
2,4,6-Tribromophenol (S)	%	81	39-119	08/13/13 08:42	
2-Fluorobiphenyl (S)	%	85	36-120	08/13/13 08:42	
2-Fluorophenol (S)	%	46	18-120	08/13/13 08:42	
Nitrobenzene-d5 (S)	%	80	32-120	08/13/13 08:42	
Phenol-d6 (S)	%	31	12-120	08/13/13 08:42	
Terphenyl-d14 (S)	%	98	44-120	08/13/13 08:42	

LABORATORY CONTROL SAMPLE: 1234814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	33.4	67	44-120	
2,4,6-Trichlorophenol	ug/L	50	36.3	73	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	38.9	78	31-147	
Hexachloro-1,3-butadiene	ug/L	50	31.7	63	41-116	
Hexachlorocyclopentadiene	ug/L	100	54.0	54	31-120	
Hexachloroethane	ug/L	50	32.1	64	40-113	
Naphthalene	ug/L	50	35.3	71	48-120	
Nitrobenzene	ug/L	50	35.9	72	47-120	
Pentachlorophenol	ug/L	50	28.6	57	43-127	
Phenol	ug/L	50	15.9	32	15-112	
2,4,6-Tribromophenol (S)	%			70	39-119	
2-Fluorobiphenyl (S)	%			73	36-120	
2-Fluorophenol (S)	%			46	18-120	
Nitrobenzene-d5 (S)	%			66	32-120	
Phenol-d6 (S)	%			31	12-120	
Terphenyl-d14 (S)	%			76	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

MATRIX SPIKE SAMPLE: 1234815

Parameter	Units	60150399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	41.9	84	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	45.3	91	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	11.9J	24	27-146	M1
Hexachloro-1,3-butadiene	ug/L	ND	50	40.5	81	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	33.4	33	11-120	
Hexachloroethane	ug/L	ND	50	38.8	78	40-113	
Naphthalene	ug/L	ND	50	43.1	86	32-120	
Nitrobenzene	ug/L	ND	50	47.8	96	35-128	
Pentachlorophenol	ug/L	ND	50	43.8	88	38-133	
Phenol	ug/L	ND	50	19.3	39	13-112	
2,4,6-Tribromophenol (S)	%				86	39-119	
2-Fluorobiphenyl (S)	%				88	36-120	
2-Fluorophenol (S)	%				45	18-120	
Nitrobenzene-d5 (S)	%				82	32-120	
Phenol-d6 (S)	%				31	12-120	
Terphenyl-d14 (S)	%				102	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WET/42797
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150553001

METHOD BLANK: 1233558 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/09/13 07:08	

LABORATORY CONTROL SAMPLE: 1233559

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: 1233560

Parameter	Units	60150536002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	41.7	101	78-114	

SAMPLE DUPLICATE: 1233561

Parameter	Units	60150551001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2.6J		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WET/42823 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150553001

METHOD BLANK: 1234848 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/12/13 08:41	

LABORATORY CONTROL SAMPLE: 1234849

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.1	106	64-132	

MATRIX SPIKE SAMPLE: 1234855

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	20.8	13.9	58	64-132	M1

SAMPLE DUPLICATE: 1234856

Parameter	Units	60150388001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	2.3J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WET/42848 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150553001

METHOD BLANK: 1235271 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/13/13 10:53	

SAMPLE DUPLICATE: 1235272

Parameter	Units	60150490004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	41.0	37.0	10	25	

SAMPLE DUPLICATE: 1235273

Parameter	Units	60150553001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	2200	2620	17	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WET/42809
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150553001

SAMPLE DUPLICATE: 1234046

Parameter	Units	60150688001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	10.1	10.0	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WETA/25749 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150553001

METHOD BLANK: 1233801 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/09/13 16:20	

LABORATORY CONTROL SAMPLE: 1233802

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

MATRIX SPIKE SAMPLE: 1233803

Parameter	Units	60150563001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	4.5	2	5.8	66	90-110	M1

MATRIX SPIKE SAMPLE: 1233805

Parameter	Units	60150316002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	105	90-110	

SAMPLE DUPLICATE: 1233804

Parameter	Units	60150160001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	0.83	0.82	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

QC Batch: WETA/25769 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150553001

METHOD BLANK: 1235028 Matrix: Water
Associated Lab Samples: 60150553001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/13/13 16:09	

LABORATORY CONTROL SAMPLE: 1235029

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.6	97	90-110	

MATRIX SPIKE SAMPLE: 1235030

Parameter	Units	60150160001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50	33.1	66	90-110	M1

MATRIX SPIKE SAMPLE: 1235032

Parameter	Units	60150366002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	189	250	451	105	90-110	

SAMPLE DUPLICATE: 1235031

Parameter	Units	60150160002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	8.8J		25	

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QUALIFIERS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-035
Pace Project No.: 60150553

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150553001	**316-035**	EPA 200.7	MPRP/23801	EPA 200.7	ICP/18658
60150553001	**316-035**	EPA 200.7	MPRP/23784	EPA 200.7	ICP/18641
60150553001	**316-035**	EPA 245.1	MERP/7584	EPA 245.1	MERC/7539
60150553001	**316-035**	EPA 245.1	MERP/7594	EPA 245.1	MERC/7553
60150553001	**316-035**	EPA 625	OEXT/39790	EPA 625	MSSV/12621
60150553001	**316-035**	EPA 624 Low	MSV/55457		
60150553002	**TRIP BLANK**	EPA 624 Low	MSV/55457		
60150553001	**316-035**	EPA 1664A	WET/42797		
60150553001	**316-035**	EPA 1664A	WET/42823		
60150553001	**316-035**	SM 2540D	WET/42848		
60150553001	**316-035**	SM 4500-H+B	WET/42809		
60150553001	**316-035**	EPA 350.1	WETA/25749		
60150553001	**316-035**	EPA 410.4	WETA/25769		

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Sample Condition Upon Receipt

WO# : 60150553

60150553

Client Name: Barr Elgin.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Roads

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

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

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

Thermometer Used: T-112 / T-194 **Type of Ice:** Wet Blue None (circle one) ☐ 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: 8/8/13

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. ph
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Both BP3N & BP3S initial ph 4.5, added 2.5mL to final ph 4-5 - no change
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed ✓ Lot # of added preservative 12510-1-3 - HNO3, 12518-1-2 - H2SO4
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/9/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D			Residual Chlorine (Y/N)	60150553
1	316-035 3A61H, 3A61U, SDA61U	OT	G	8/7/13	1242		1BP2U		15	9	1	1	3	1DP3U		1DP1N	4-5	X	X	X	X	X	X	X	X	1BP3S	4-5		METALS LIST total & LF Dis:
2	TRIP BLANK						2DG9U		2	2															X				Al, Sb, As, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn and Mercury
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	Hunter King	8/7/13	1320	Emily Heiser	8/7/13	1320				
SITE ADDRESS: BRIDGETON LF	Emily Heiser	8/7/13	1655	KM 554	8/7/13	1655				
13570 ST. CHARLES ROCK RD				EBrackett / Pace	8/8	0005	2-1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/7/13				

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

August 15, 2013

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

RE: Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 08, 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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Lenexa, KS 66219
(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

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 316-035
Pace Project No.: 60150554

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150554001	**316-035**	Water	08/07/13 12:42	08/08/13 00:05

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(913)599-5665

SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150554001	**316-035**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

Sample: 316-035 **Lab ID: 60150554001** Collected: 08/07/13 12:42 Received: 08/08/13 00:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34400**	mg/L	2.0	1	08/09/13 10:02	08/14/13 12:57		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

QC Batch: WET/42799
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150554001

METHOD BLANK: 1233606 Matrix: Water
Associated Lab Samples: 60150554001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/14/13 12:34	

LABORATORY CONTROL SAMPLE: 1233607

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

SAMPLE DUPLICATE: 1233608

Parameter	Units	60150561001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	ND	ND		17	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-035
Pace Project No.: 60150554

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150554001	**316-035**	SM 5210B	WET/42799	SM 5210B	WET/42875

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
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Sample Condition Upon Receipt

WO# : 60150554

60150554

Client Name: Barr Engin.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-loads

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

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

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

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

Cooler Temperature: 2-C

Temperature should be above freezing to 6°C

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

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: KD Date: 8/8/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60150554
1	316-035	OT	G	8/7/13	1242	—			1	1									X		1BP2u a01
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	Hunter King	8/7/13	1320	Emily Hawkes	8/7/13	1320				
SITE ADDRESS: BRIDGETON LF	Emily Hawkes	8/7/13	1655	554	8/7/13	1655				
13570 ST. CHARLES ROCK RD				EBrockett / Pace	8/8	0005	2-1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/7/13				

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

August 15, 2013

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

RE: Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-036
Pace Project No.: 60150676

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 316-036
Pace Project No.: 60150676

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150676001	**316-036**	Water	08/08/13 13:04	08/09/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150676001	**316-036**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

Sample: 316-036 **Lab ID: 60150676001** Collected: 08/08/13 13:04 Received: 08/09/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**18800**	mg/L	2.0	1	08/10/13 12:47	08/15/13 15:24		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

QC Batch: WET/42818
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150676001

METHOD BLANK: 1234462 Matrix: Water
Associated Lab Samples: 60150676001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/15/13 15:17	

LABORATORY CONTROL SAMPLE: 1234463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1234464

Parameter	Units	60150685001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	364	340	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-036
Pace Project No.: 60150676

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150676001	**316-036**	SM 5210B	WET/42818	SM 5210B	WET/42907

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150676

60150676

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 0.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: KE 8/9/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/9

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency

State / Location

Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B		Residual Chlorine (Y/N)	60150676
1	316-036	OT	G	8/8/13	1301	—	—		1	1									x	1 (BP2U)		101
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter Kiz	8/8/13	1301	[illegible]	8/8/13	1301				
SITE ADDRESS: BRIDGETON LF	[illegible]	8/8/13	1635	[illegible] 554	8/8/13	1635				
13570 ST. CHARLES ROCK RD				[illegible] / PASI	8/9/13	130	0.1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter Kiz

DATE Signed: 8/8/13

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

August 16, 2013

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

RE: Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-036
Pace Project No.: 60150677

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 316-036
Pace Project No.: 60150677

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150677001	**316-036**	Water	08/08/13 13:01	08/09/13 01:30
60150677002	**TRIP BLANK**	Water	08/08/13 13:01	08/09/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150677001	**316-036**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	AAM	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JMC	1
60150677002	**TRIP BLANK**	EPA 624 Low	AAM	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Sample: 316-036 **Lab ID: 60150677001** Collected: 08/08/13 13:01 Received: 08/09/13 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	**5220**	ug/L	150	2	08/15/13 10:30	08/15/13 15:27	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/15/13 10:30	08/15/13 15:48	7440-36-0	D3
Arsenic	**620**	ug/L	50.0	5	08/15/13 10:30	08/15/13 15:48	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:27	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/15/13 10:30	08/15/13 15:48	7440-43-9	D3
Chromium	**204**	ug/L	25.0	5	08/15/13 10:30	08/15/13 15:48	7440-47-3	
Cobalt	**49.2**	ug/L	25.0	5	08/15/13 10:30	08/15/13 15:48	7440-48-4	
Copper	**23.6**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:27	7440-50-8	
Iron	**488000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:27	7439-89-6	
Lead	**82.0**	ug/L	25.0	5	08/15/13 10:30	08/15/13 15:48	7439-92-1	
Nickel	**146**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:27	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 15:48	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:27	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 15:48	7440-28-0	D3
Zinc	**11900**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:25	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2850**	ug/L	150	2	08/14/13 16:45	08/16/13 11:15	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 11:59	7440-36-0	D3
Arsenic, Dissolved	**502**	ug/L	50.0	5	08/14/13 16:45	08/16/13 11:59	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 11:59	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 11:59	7440-43-9	D3
Chromium, Dissolved	**198**	ug/L	25.0	5	08/14/13 16:45	08/16/13 11:59	7440-47-3	
Cobalt, Dissolved	**47.6**	ug/L	25.0	5	08/14/13 16:45	08/16/13 11:59	7440-48-4	
Copper, Dissolved	**20.7**	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:15	7440-50-8	
Iron, Dissolved	**478000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:15	7439-89-6	M1
Lead, Dissolved	**57.3**	ug/L	25.0	5	08/14/13 16:45	08/16/13 11:59	7439-92-1	
Nickel, Dissolved	**138**	ug/L	25.0	5	08/14/13 16:45	08/16/13 11:59	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 11:59	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:15	7440-22-4	D3,M1, R1
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 11:59	7440-28-0	D3
Zinc, Dissolved	**9360**	ug/L	1000	20	08/14/13 16:45	08/16/13 12:43	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**8.8**	ug/L	0.20	1	08/13/13 17:45	08/14/13 10:56	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	08/15/13 11:10	08/15/13 15:22	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/14/13 00:00	08/15/13 10:42	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	91-20-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Sample: 316-036 **Lab ID: 60150677001** Collected: 08/08/13 13:01 Received: 08/09/13 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							
Nitrobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	98-95-3	
Pentachlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	87-86-5	
Phenol	**15100**	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 10:42	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/14/13 00:00	08/15/13 10:42	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/14/13 00:00	08/15/13 10:42	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/14/13 00:00	08/15/13 10:42	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/14/13 00:00	08/15/13 10:42	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/14/13 00:00	08/15/13 10:42	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/14/13 00:00	08/15/13 10:42	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/09/13 18:18	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/09/13 18:18	75-27-4	
Bromoform	ND	ug/L	200	200		08/09/13 18:18	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/09/13 18:18	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/09/13 18:18	56-23-5	
Chloroethane	ND	ug/L	200	200		08/09/13 18:18	75-00-3	
Chloroform	ND	ug/L	200	200		08/09/13 18:18	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/09/13 18:18	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/09/13 18:18	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/09/13 18:18	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/09/13 18:18	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/09/13 18:18	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/09/13 18:18	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/09/13 18:18	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/09/13 18:18	127-18-4	
Toluene	ND	ug/L	200	200		08/09/13 18:18	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/09/13 18:18	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/09/13 18:18	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/09/13 18:18	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/09/13 18:18	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/09/13 18:18	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	109	%	80-120	200		08/09/13 18:18	1868-53-7	D3
4-Bromofluorobenzene (S)	95	%	80-120	200		08/09/13 18:18	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		08/09/13 18:18	2037-26-5	
1,2-Dichloroethane-d4 (S)	108	%	80-120	200		08/09/13 18:18	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/09/13 18:18		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**299**	mg/L	5.0	1		08/09/13 14:00		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Sample: 316-036 **Lab ID: 60150677001** Collected: 08/08/13 13:01 Received: 08/09/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**7.1**	mg/L	5.0	1		08/13/13 12:31		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1820**	mg/L	5.0	1		08/14/13 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/12/13 12:54		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**699**	mg/L	20.0	200		08/09/13 17:21	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55800**	mg/L	5000	500		08/15/13 07:56		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Sample: TRIP BLANK **Lab ID: 60150677002** Collected: 08/08/13 13:01 Received: 08/09/13 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		08/09/13 18:40	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/09/13 18:40	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/09/13 18:40	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/09/13 18:40	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/09/13 18:40	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/09/13 18:40	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/09/13 18:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/09/13 18:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/09/13 18:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/09/13 18:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/09/13 18:40	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/09/13 18:40	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/09/13 18:40	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/09/13 18:40	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/09/13 18:40	127-18-4	
Toluene	ND	ug/L	1.0	1		08/09/13 18:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/09/13 18:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/09/13 18:40	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/09/13 18:40	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/09/13 18:40	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/09/13 18:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	112	%	80-120	1		08/09/13 18:40	1868-53-7	
4-Bromofluorobenzene (S)	101	%	80-120	1		08/09/13 18:40	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		08/09/13 18:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	94	%	80-120	1		08/09/13 18:40	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/09/13 18:40		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: MERP/7595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150677001

METHOD BLANK: 1235705 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/14/13 10:47	

LABORATORY CONTROL SAMPLE: 1235706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235707 1235708

Parameter	Units	60150897001 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	4.8	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: MERP/7603
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150677001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150677001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150677001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: MSV/55502 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150677001, 60150677002

METHOD BLANK: 1234096 Matrix: Water
Associated Lab Samples: 60150677001, 60150677002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/09/13 16:53	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/09/13 16:53	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/09/13 16:53	
1,2-Dichloroethane	ug/L	ND	1.0	08/09/13 16:53	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/09/13 16:53	
Benzene	ug/L	ND	1.0	08/09/13 16:53	
Bromodichloromethane	ug/L	ND	1.0	08/09/13 16:53	
Bromoform	ug/L	ND	1.0	08/09/13 16:53	
Bromomethane	ug/L	ND	5.0	08/09/13 16:53	
Carbon tetrachloride	ug/L	ND	1.0	08/09/13 16:53	
Chloroethane	ug/L	ND	1.0	08/09/13 16:53	
Chloroform	ug/L	ND	1.0	08/09/13 16:53	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/09/13 16:53	
Ethylbenzene	ug/L	ND	1.0	08/09/13 16:53	
Methylene chloride	ug/L	ND	1.0	08/09/13 16:53	
Tetrachloroethene	ug/L	ND	1.0	08/09/13 16:53	
Toluene	ug/L	ND	1.0	08/09/13 16:53	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/09/13 16:53	
Trichloroethene	ug/L	ND	1.0	08/09/13 16:53	
Vinyl chloride	ug/L	ND	1.0	08/09/13 16:53	
Xylene (Total)	ug/L	ND	3.0	08/09/13 16:53	
1,2-Dichloroethane-d4 (S)	%	104	80-120	08/09/13 16:53	
4-Bromofluorobenzene (S)	%	102	80-120	08/09/13 16:53	
Toluene-d8 (S)	%	103	80-120	08/09/13 16:53	

LABORATORY CONTROL SAMPLE: 1234097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	17.4	87	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	20.6	103	59-138	
1,1,2-Trichloroethane	ug/L	20	17.3	87	69-127	
1,2-Dichloroethane	ug/L	20	17.3	86	71-129	
1,4-Dichlorobenzene	ug/L	20	20.8	104	68-124	
Benzene	ug/L	20	16.9	85	73-129	
Bromodichloromethane	ug/L	20	17.0	85	63-129	
Bromoform	ug/L	20	19.4	97	52-123	
Bromomethane	ug/L	20	16.8	84	10-160	
Carbon tetrachloride	ug/L	20	17.4	87	70-140	
Chloroethane	ug/L	20	16.1	81	42-160	
Chloroform	ug/L	20	15.5	78	60-120	
cis-1,2-Dichloroethene	ug/L	20	17.7	89	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

LABORATORY CONTROL SAMPLE: 1234097

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	16.1	80	66-133	
Methylene chloride	ug/L	20	18.1	90	56-135	
Tetrachloroethene	ug/L	20	15.5	78	64-143	
Toluene	ug/L	20	16.0	80	70-130	
trans-1,2-Dichloroethene	ug/L	20	17.5	88	67-149	
Trichloroethene	ug/L	20	18.8	94	71-130	
Vinyl chloride	ug/L	20	14.1	71	41-160	
Xylene (Total)	ug/L	60	51.9	86	67-130	
1,2-Dichloroethane-d4 (S)	%			95	80-120	
4-Bromofluorobenzene (S)	%			105	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1234098

Parameter	Units	60150604001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	20	19.2	96	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	19.1	95	46-157	
1,1,2-Trichloroethane	ug/L	ND	20	15.3	76	52-150	
1,2-Dichloroethane	ug/L	ND	20	16.4	82	49-155	
1,4-Dichlorobenzene	ug/L	ND	20	17.9	88	18-147	
Benzene	ug/L	ND	20	16.5	82	37-151	
Bromodichloromethane	ug/L	ND	20	16.1	80	35-155	
Bromoform	ug/L	ND	20	17.7	84	45-133	
Bromomethane	ug/L	ND	20	14.7	71	10-160	
Carbon tetrachloride	ug/L	ND	20	20.1	101	70-140	
Chloroethane	ug/L	ND	20	17.1	85	14-160	
Chloroform	ug/L	ND	20	16.9	82	51-138	
cis-1,2-Dichloroethene	ug/L	ND	20	18.4	92	19-160	
Ethylbenzene	ug/L	ND	20	15.0	75	37-154	
Methylene chloride	ug/L	ND	20	18.9	95	15-156	
Tetrachloroethene	ug/L	ND	20	15.4	77	64-148	
Toluene	ug/L	ND	20	16.0	80	47-150	
trans-1,2-Dichloroethene	ug/L	ND	20	18.7	93	54-156	
Trichloroethene	ug/L	ND	20	17.3	86	71-157	
Vinyl chloride	ug/L	ND	20	15.0	75	10-160	
Xylene (Total)	ug/L	ND	60	50.4	84	12-153	
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				100	80-120	
Toluene-d8 (S)	%				97	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: OEXT/39841
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150677001

METHOD BLANK: 1235808
Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/15/13 08:58	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/15/13 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachloroethane	ug/L	ND	5.0	08/15/13 08:58	
Naphthalene	ug/L	ND	5.0	08/15/13 08:58	
Nitrobenzene	ug/L	ND	5.0	08/15/13 08:58	
Pentachlorophenol	ug/L	ND	5.0	08/15/13 08:58	
Phenol	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Tribromophenol (S)	%	70	39-119	08/15/13 08:58	
2-Fluorobiphenyl (S)	%	68	36-120	08/15/13 08:58	
2-Fluorophenol (S)	%	49	18-120	08/15/13 08:58	
Nitrobenzene-d5 (S)	%	67	32-120	08/15/13 08:58	
Phenol-d6 (S)	%	37	12-120	08/15/13 08:58	
Terphenyl-d14 (S)	%	78	44-120	08/15/13 08:58	

LABORATORY CONTROL SAMPLE: 1235809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	44-120	
2,4,6-Trichlorophenol	ug/L	50	33.7	67	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.2	74	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.0	66	41-116	
Hexachlorocyclopentadiene	ug/L	100	59.0	59	31-120	
Hexachloroethane	ug/L	50	31.9	64	40-113	
Naphthalene	ug/L	50	34.2	68	48-120	
Nitrobenzene	ug/L	50	35.4	71	47-120	
Pentachlorophenol	ug/L	50	36.2	72	43-127	
Phenol	ug/L	50	17.6	35	15-112	
2,4,6-Tribromophenol (S)	%			71	39-119	
2-Fluorobiphenyl (S)	%			66	36-120	
2-Fluorophenol (S)	%			47	18-120	
Nitrobenzene-d5 (S)	%			65	32-120	
Phenol-d6 (S)	%			35	12-120	
Terphenyl-d14 (S)	%			72	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

MATRIX SPIKE SAMPLE: 1235810

Parameter	Units	60150566002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.9	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.0	72	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	31.7	63	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.2	66	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	57.6	58	11-120	
Hexachloroethane	ug/L	ND	50	32.1	64	40-113	
Naphthalene	ug/L	ND	50	34.1	68	32-120	
Nitrobenzene	ug/L	ND	50	35.1	70	35-128	
Pentachlorophenol	ug/L	ND	50	39.6	79	38-133	
Phenol	ug/L	ND	50	19.1	38	13-112	
2,4,6-Tribromophenol (S)	%				79	39-119	
2-Fluorobiphenyl (S)	%				68	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				64	32-120	
Phenol-d6 (S)	%				33	12-120	
Terphenyl-d14 (S)	%				76	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WET/42807
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150677001

METHOD BLANK: 1233947 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/09/13 14:00	

LABORATORY CONTROL SAMPLE: 1233948

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	40.0	100	78-114	

MATRIX SPIKE SAMPLE: 1233951

Parameter	Units	60150695001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	45.3	104	78-114	

SAMPLE DUPLICATE: 1233952

Parameter	Units	60150302001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	ND	2J		18	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WET/42850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150677001

METHOD BLANK: 1235322 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/13/13 12:29	

LABORATORY CONTROL SAMPLE: 1235323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.6	108	64-132	

MATRIX SPIKE SAMPLE: 1235329

Parameter	Units	60150388004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.5	22.7	103	64-132	

SAMPLE DUPLICATE: 1235330

Parameter	Units	60150388005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.5J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WET/42863 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150677001

METHOD BLANK: 1235879 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/14/13 08:24	

SAMPLE DUPLICATE: 1235880

Parameter	Units	60150901001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	24.0	24.0	0	25	

SAMPLE DUPLICATE: 1235881

Parameter	Units	60150674003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	60.0	8	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WET/42831
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150677001

SAMPLE DUPLICATE: 1234985

Parameter	Units	60150677001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.8	5.8	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WETA/25750
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150677001

METHOD BLANK: 1233806 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/09/13 16:53	

LABORATORY CONTROL SAMPLE: 1233807

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

MATRIX SPIKE SAMPLE: 1233808

Parameter	Units	60150463002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.27	2	2.3	102	90-110	

MATRIX SPIKE SAMPLE: 1233810

Parameter	Units	60150534003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	8.7	10	18.3	95	90-110	

SAMPLE DUPLICATE: 1233809

Parameter	Units	60150415002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	47.1	46.2	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

QC Batch: WETA/25793
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60150677001

METHOD BLANK: 1235988 Matrix: Water
Associated Lab Samples: 60150677001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/15/13 07:24	

LABORATORY CONTROL SAMPLE: 1235989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.2	108	90-110	

MATRIX SPIKE SAMPLE: 1236006

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14.0	50	89.3	151	90-110	M1

MATRIX SPIKE SAMPLE: 1236009

Parameter	Units	60150388001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65.4	50	125	120	90-110	M1

SAMPLE DUPLICATE: 1235991

Parameter	Units	60150386002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	16.7	15.7	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-036
Pace Project No.: 60150677

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150677001	**316-036**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150677001	**316-036**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150677001	**316-036**	EPA 245.1	MERP/7595	EPA 245.1	MERC/7551
60150677001	**316-036**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150677001	**316-036**	EPA 625	OEXT/39841	EPA 625	MSSV/12639
60150677001	**316-036**	EPA 624 Low	MSV/55502		
60150677002	**TRIP BLANK**	EPA 624 Low	MSV/55502		
60150677001	**316-036**	EPA 1664A	WET/42807		
60150677001	**316-036**	EPA 1664A	WET/42850		
60150677001	**316-036**	SM 2540D	WET/42863		
60150677001	**316-036**	SM 4500-H+B	WET/42831		
60150677001	**316-036**	EPA 350.1	WETA/25750		
60150677001	**316-036**	EPA 410.4	WETA/25793		

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Sample Condition Upon Receipt

WO#: 60150677

60150677

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 0.1

Date and initials of person examining contents: KE 8/9/13

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. 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~~ KE, 8/9/13 ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: (VOA) coliform, TOC (O&G) WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/9

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	
Missouri	

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60150677
1	316-036	OT	G	8/8/13	1301	—	—		15 10	1	1	3	5(DG9U)				1(BP3N)		4 x	1(BP3S) x	3(AG1H) x	x	x	x	3(AG1U) x	x	1(BP3U)	1(BP2U)	METALS LIST total & LF Dis:
2	TRIP BLANK								2	2				2(DG9U)										X				Al, Sb, As, Be, Cd, Cr,
3																												Co, Cu, Fe, Pb, Ni, Se, Ag, Tl, Zn
4																												and Mercury
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

14
42

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/8/13	1301	Emily Heinz	8/8/13	1301				
SITE ADDRESS: BRIDGETON LF	Emily Heinz	8/8/13	1635	QA 554	8/8/13	1635				
13570 ST CHARLES ROCK RD				Kyle S 100SI	8/9/13	130	0.1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/8/13				

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

August 19, 2013

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

RE: Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 10, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

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 316-037
Pace Project No.: 60150779

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150779001	**316-037**	Water	08/09/13 13:09	08/10/13 01:20
60150779002	**TRIP BLANK**	Water	08/09/13 13:09	08/10/13 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150779001	**316-037**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JMC	1
60150779002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Sample: 316-037 **Lab ID: 60150779001** Collected: 08/09/13 13:09 Received: 08/10/13 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9460**	ug/L	150	2	08/15/13 10:30	08/15/13 15:31	7429-90-5	
Antimony	**50.4**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:31	7440-36-0	
Arsenic	**674**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:31	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:31	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:31	7440-43-9	D3
Chromium	**229**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:08	7440-47-3	
Cobalt	**60.9**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:31	7440-48-4	
Copper	**37.3**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:31	7440-50-8	
Iron	**685000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:31	7439-89-6	
Lead	**162**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:31	7439-92-1	
Nickel	**216**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:31	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 16:08	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:31	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 16:08	7440-28-0	D3
Zinc	**11700**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:28	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2880**	ug/L	150	2	08/14/13 16:45	08/16/13 11:26	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:09	7440-36-0	D3
Arsenic, Dissolved	**511**	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 12:09	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:09	7440-43-9	D3
Chromium, Dissolved	**205**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:09	7440-47-3	
Cobalt, Dissolved	**51.5**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:09	7440-48-4	
Copper, Dissolved	**21.0**	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:26	7440-50-8	
Iron, Dissolved	**503000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:26	7439-89-6	
Lead, Dissolved	**72.4**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:09	7439-92-1	
Nickel, Dissolved	**201**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 12:09	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:26	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 12:09	7440-28-0	D3
Zinc, Dissolved	**9740**	ug/L	1000	20	08/14/13 16:45	08/16/13 12:53	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.8**	ug/L	0.20	1	08/13/13 17:45	08/14/13 11:09	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	08/15/13 11:10	08/15/13 15:24	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/14/13 00:00	08/15/13 11:03	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	98-95-3	

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Sample: 316-037 **Lab ID: 60150779001** Collected: 08/09/13 13:09 Received: 08/10/13 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	87-86-5	
Phenol	**13400**	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/14/13 00:00	08/15/13 11:03	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/14/13 00:00	08/15/13 11:03	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/14/13 00:00	08/15/13 11:03	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/14/13 00:00	08/15/13 11:03	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/14/13 00:00	08/15/13 11:03	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/14/13 00:00	08/15/13 11:03	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 20:57	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 20:57	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 20:57	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 20:57	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 20:57	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 20:57	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 20:57	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 20:57	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 20:57	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 20:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 20:57	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 20:57	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 20:57	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 20:57	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 20:57	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 20:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 20:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 20:57	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 20:57	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 20:57	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 20:57	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	200		08/15/13 20:57	1868-53-7	D3
4-Bromofluorobenzene (S)	101	%	80-120	200		08/15/13 20:57	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		08/15/13 20:57	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		08/15/13 20:57	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 20:57		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**461**	mg/L	5.0	1		08/11/13 09:15		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/13/13 12:32		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Sample: 316-037 **Lab ID: 60150779001** Collected: 08/09/13 13:09 Received: 08/10/13 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2620**	mg/L	5.0	1		08/14/13 13:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.9**	Std. Units	0.10	1		08/12/13 12:54		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**668**	mg/L	20.0	200		08/13/13 15:24	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52200**	mg/L	5000	500		08/15/13 07:57		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Sample: TRIP BLANK **Lab ID: 60150779002** Collected: 08/09/13 13:09 Received: 08/10/13 01:20 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		08/15/13 18:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 18:49	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 18:49	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 18:49	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 18:49	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 18:49	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 18:49	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 18:49	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 18:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 18:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 18:49	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 18:49	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 18:49	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 18:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 18:49	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 18:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 18:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 18:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 18:49	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 18:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 18:49	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	1		08/15/13 18:49	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/15/13 18:49	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		08/15/13 18:49	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	1		08/15/13 18:49	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 18:49		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: MERP/7595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150779001

METHOD BLANK: 1235705 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/14/13 10:47	

LABORATORY CONTROL SAMPLE: 1235706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235707 1235708

Parameter	Units	60150897001 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	4.8	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: MERP/7603
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150779001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150779001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150779001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: MSV/55578 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150779001, 60150779002

METHOD BLANK: 1236561 Matrix: Water
Associated Lab Samples: 60150779001, 60150779002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: OEXT/39841
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150779001

METHOD BLANK: 1235808 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/15/13 08:58	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/15/13 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachloroethane	ug/L	ND	5.0	08/15/13 08:58	
Naphthalene	ug/L	ND	5.0	08/15/13 08:58	
Nitrobenzene	ug/L	ND	5.0	08/15/13 08:58	
Pentachlorophenol	ug/L	ND	5.0	08/15/13 08:58	
Phenol	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Tribromophenol (S)	%	70	39-119	08/15/13 08:58	
2-Fluorobiphenyl (S)	%	68	36-120	08/15/13 08:58	
2-Fluorophenol (S)	%	49	18-120	08/15/13 08:58	
Nitrobenzene-d5 (S)	%	67	32-120	08/15/13 08:58	
Phenol-d6 (S)	%	37	12-120	08/15/13 08:58	
Terphenyl-d14 (S)	%	78	44-120	08/15/13 08:58	

LABORATORY CONTROL SAMPLE: 1235809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	44-120	
2,4,6-Trichlorophenol	ug/L	50	33.7	67	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.2	74	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.0	66	41-116	
Hexachlorocyclopentadiene	ug/L	100	59.0	59	31-120	
Hexachloroethane	ug/L	50	31.9	64	40-113	
Naphthalene	ug/L	50	34.2	68	48-120	
Nitrobenzene	ug/L	50	35.4	71	47-120	
Pentachlorophenol	ug/L	50	36.2	72	43-127	
Phenol	ug/L	50	17.6	35	15-112	
2,4,6-Tribromophenol (S)	%			71	39-119	
2-Fluorobiphenyl (S)	%			66	36-120	
2-Fluorophenol (S)	%			47	18-120	
Nitrobenzene-d5 (S)	%			65	32-120	
Phenol-d6 (S)	%			35	12-120	
Terphenyl-d14 (S)	%			72	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

MATRIX SPIKE SAMPLE: 1235810

Parameter	Units	60150566002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.9	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.0	72	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	31.7	63	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.2	66	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	57.6	58	11-120	
Hexachloroethane	ug/L	ND	50	32.1	64	40-113	
Naphthalene	ug/L	ND	50	34.1	68	32-120	
Nitrobenzene	ug/L	ND	50	35.1	70	35-128	
Pentachlorophenol	ug/L	ND	50	39.6	79	38-133	
Phenol	ug/L	ND	50	19.1	38	13-112	
2,4,6-Tribromophenol (S)	%				79	39-119	
2-Fluorobiphenyl (S)	%				68	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				64	32-120	
Phenol-d6 (S)	%				33	12-120	
Terphenyl-d14 (S)	%				76	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: WET/42819
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150779001

METHOD BLANK: 1234774 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/11/13 09:13	

LABORATORY CONTROL SAMPLE: 1234775

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	39.9	100	78-114	

MATRIX SPIKE SAMPLE: 1234778

Parameter	Units	60150399001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	23.1	54	78-114	M1

SAMPLE DUPLICATE: 1234777

Parameter	Units	60150546002 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 316-037
Pace Project No.: 60150779

QC Batch: WET/42850 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150779001

METHOD BLANK: 1235322 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/13/13 12:29	

LABORATORY CONTROL SAMPLE: 1235323

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.6	108	64-132	

MATRIX SPIKE SAMPLE: 1235329

Parameter	Units	60150388004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.5	22.7	103	64-132	

SAMPLE DUPLICATE: 1235330

Parameter	Units	60150388005 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	1.5J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: WET/42871 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150779001

METHOD BLANK: 1236213 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/14/13 13:44	

SAMPLE DUPLICATE: 1236214

Parameter	Units	60150698001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	26.0	28.0	7	25	

SAMPLE DUPLICATE: 1236215

Parameter	Units	60150718001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	510	590	15	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: WET/42831
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150779001

SAMPLE DUPLICATE: 1234985

Parameter	Units	60150677001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.8	5.8	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: WETA/25781 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150779001

METHOD BLANK: 1235508 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/13/13 14:56	

LABORATORY CONTROL SAMPLE: 1235509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1235510

Parameter	Units	60150415003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.0	93	90-110	

MATRIX SPIKE SAMPLE: 1235512

Parameter	Units	60150412001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.0	2	4.7	89	90-110	M1

SAMPLE DUPLICATE: 1235511

Parameter	Units	60150253005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

QC Batch: WETA/25793
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60150779001

METHOD BLANK: 1235988 Matrix: Water
Associated Lab Samples: 60150779001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/15/13 07:24	

LABORATORY CONTROL SAMPLE: 1235989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.2	108	90-110	

MATRIX SPIKE SAMPLE: 1236006

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14.0	50	89.3	151	90-110	M1

MATRIX SPIKE SAMPLE: 1236009

Parameter	Units	60150388001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65.4	50	125	120	90-110	M1

SAMPLE DUPLICATE: 1235991

Parameter	Units	60150386002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	16.7	15.7	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-037
Pace Project No.: 60150779

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150779001	**316-037**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150779001	**316-037**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150779001	**316-037**	EPA 245.1	MERP/7595	EPA 245.1	MERC/7551
60150779001	**316-037**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150779001	**316-037**	EPA 625	OEXT/39841	EPA 625	MSSV/12639
60150779001	**316-037**	EPA 624 Low	MSV/55578		
60150779002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60150779001	**316-037**	EPA 1664A	WET/42819		
60150779001	**316-037**	EPA 1664A	WET/42850		
60150779001	**316-037**	SM 2540D	WET/42871		
60150779001	**316-037**	SM 4500-H+B	WET/42831		
60150779001	**316-037**	EPA 350.1	WETA/25781		
60150779001	**316-037**	EPA 410.4	WETA/25793		

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Sample Condition Upon Receipt

WO#: 60150779

60150779

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: ~~T-113~~ / 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: KE 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. 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	Initial pH for HNO_3 and H_2SO_4 have a pH of ≈ 6. Added 2.5 mL of each preservative to get a final
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14. pH of ≈ 4 and 2 respectively
Exceptions: (VOA) coliform, TOC, (O&G) WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: KE / Lot # of added preservative: 12510 / 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/12/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150779
1	316-037	OT	G	8/9/13	1309	—	—		15 ~~13~~	10 ~~9~~	1	1	3 ~~2~~	3(AG1U)			3(AG1H)		X	1(BP3N)	6	1(BP3S)	6	1(BP3U)	6	X	X	X			1(BP2U)	5(DG9U) METALS LIST total & LF Dis: C1
2	TRIP BLANK			—	—	—			2	2									2(DG9U)							X						Al,Sb,As,Be,Cd,Cr, C2
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/9/13	1500	[signature]	8/9/13	1500				
SITE ADDRESS: BRIDGETON LF	[signature]	8/9/13	1609	GH 554	8/9/13	1609				
13570 ST. CHARLES ROCK RD				[signature] /PASI	8/10/13	120	3.5	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER: Hunter King	
SIGNATURE of SAMPLER: Hunter King	DATE Signed: 8/9/13

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

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

August 15, 2013

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

RE: Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-037
Pace Project No.: 60150780

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 316-037
Pace Project No.: 60150780

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150780001	**316-037**	Water	08/09/13 13:09	08/10/13 01:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150780001	**316-037**	SM 5210B	JML	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

Sample: 316-037 **Lab ID: 60150780001** Collected: 08/09/13 13:09 Received: 08/10/13 01:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**17900**	mg/L	2.0	1	08/10/13 13:10	08/15/13 15:31		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

QC Batch: WET/42818
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150780001

METHOD BLANK: 1234462 Matrix: Water
Associated Lab Samples: 60150780001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/15/13 15:17	

LABORATORY CONTROL SAMPLE: 1234463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1234464

Parameter	Units	60150685001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	364	340	7	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-037
Pace Project No.: 60150780

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150780001	**316-037**	SM 5210B	WET/42818	SM 5210B	WET/42907

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60150780

60150780

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 3.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: ICE 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. BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☑No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/12/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N: Analyses Test	BOD SM 5210B										Residual Chlorine (Y/N)	60150780
1	316-037	OT	G	8/9/13	1209	—	—		1	1									X			1(BP2U)							001
2																													
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	8/9/13	1500		8/9/13	1500				
SITE ADDRESS: BRIDGETON LF		8/9/13	1609	554	8/9/13	1609				
13570 ST. CHARLES ROCK RD				IPOSI	8/10/13	120	3.5	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter King					
SIGNATURE of SAMPLER:	Hunter King	DATE Signed: 8/9/13				

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

September 12, 2013

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

RE: Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

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

Amended report revised 09/06/13 for re-preparation of Biochemical Oxygen Demand analysis.

Amended report revised 09/12/12 to correct quality control sample association.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

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 316-038
Pace Project No.: 60150839

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150839001	**316-038**	Water	08/10/13 14:25	08/12/13 13:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150839001	**316-038**	SM 5210B	DJR	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

Sample: 316-038 **Lab ID: 60150839001** Collected: 08/10/13 14:25 Received: 08/12/13 13:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**69500**	mg/L	2.0	1	08/12/13 14:23	08/17/13 10:40		
BOD, 5 day	**25600**	mg/L	2.0	1	08/29/13 16:31	09/03/13 09:16		H1,H2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

QC Batch: WET/42832
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150839001

METHOD BLANK: 1235010 Matrix: Water
Associated Lab Samples: 60150839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/17/13 10:36	

LABORATORY CONTROL SAMPLE: 1235011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	89	85-115	

SAMPLE DUPLICATE: 1235012

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	69500	66400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

QC Batch: WET/43137
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150839001

METHOD BLANK: 1244720 Matrix: Water
Associated Lab Samples: 60150839001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/03/13 09:13	

LABORATORY CONTROL SAMPLE: 1244721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	88	85-115	

SAMPLE DUPLICATE: 1244722

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25600	28500	10	17	H1

SAMPLE DUPLICATE: 1244724

Parameter	Units	60152007001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27500	26100	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

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

H1	Analysis conducted outside the EPA method holding time.
H2	Extraction or preparation conducted outside EPA method holding time.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-038
Pace Project No.: 60150839

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150839001	**316-038**	SM 5210B	WET/42832	SM 5210B	WET/42835
60150839001	**316-038**	SM 5210B	WET/43137	SM 5210B	WET/43196

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150839

60150839

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/12/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60150859
1	316-035	OT	G	8/10/13	1455	—	—		1	1									X		BOD CL
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	Hunter Kingi	08-11-13	1000	Feezor Eq.	08-11-13	1000				
SITE ADDRESS: BRIDGETON LF	Feezor Eq.	08-12-13	0850	Bill Stone 412	08-12-13	0850				
13570 ST. CHARLES ROCK RD				PASI	08/12/13	1320	5.1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	Hunter Kingi					
SIGNATURE of SAMPLER:	Hunter Kingi	DATE Signed: 8/10/13				

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

August 19, 2013

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

RE: Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-039
Pace Project No.: 60150840

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 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150840001	**316-039**	Water	08/11/13 11:59	08/12/13 13:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150840001	**316-039**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Sample: 316-039 **Lab ID: 60150840001** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31400**	mg/L	2.0	1	08/12/13 15:56	08/17/13 10:46		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

QC Batch: WET/42832 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150840001

METHOD BLANK: 1235010 Matrix: Water
Associated Lab Samples: 60150840001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/17/13 10:36	

LABORATORY CONTROL SAMPLE: 1235011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	89	85-115	

SAMPLE DUPLICATE: 1235012

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	69500	66400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150840001	**316-039**	SM 5210B	WET/42832	SM 5210B	WET/42835

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150840

60150840

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.9

Date and initials of person examining contents: 8/12/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No. PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): BOD SM 5210B	Residual Chlorine (Y/N)	60150840
1	316-039	OT	G	8/11/13	1159	—	—		1	1									X		BP2U 01
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng.	08-12-13	0850	Bill Stone 412	08-12-13	0850				
SITE ADDRESS: BRIDGETON LF				[signature] / PASC	8/12/13	1325	4.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 8/11/13

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

August 19, 2013

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

RE: Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

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 316-038
Pace Project No.: 60150842

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150842001	**316-038**	Water	08/10/13 14:25	08/12/13 13:25
60150842002	**TRIP BLANK**	Water	08/10/13 14:25	08/12/13 13:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150842001	**316-038**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JMC	1
60150842002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Sample: 316-038 **Lab ID: 60150842001** Collected: 08/10/13 14:25 Received: 08/12/13 13:25 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	**5560**	ug/L	150	2	08/15/13 10:30	08/15/13 15:38	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:15	7440-36-0	D3
Arsenic	**633**	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:15	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:38	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:15	7440-43-9	D3
Chromium	**204**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:15	7440-47-3	
Cobalt	**49.0**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:15	7440-48-4	
Copper	ND	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:38	7440-50-8	D3
Iron	**530000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:38	7439-89-6	
Lead	**99.4**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:15	7439-92-1	
Nickel	**162**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:38	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 16:15	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:38	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 16:15	7440-28-0	D3
Zinc	**11200**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:47	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2990**	ug/L	150	2	08/14/13 16:45	08/16/13 11:49	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:32	7440-36-0	D3
Arsenic, Dissolved	**560**	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:32	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 12:32	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:32	7440-43-9	D3
Chromium, Dissolved	**205**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:32	7440-47-3	D9
Cobalt, Dissolved	**50.8**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:32	7440-48-4	D9
Copper, Dissolved	ND	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:49	7440-50-8	D3
Iron, Dissolved	**517000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:49	7439-89-6	
Lead, Dissolved	**69.0**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:32	7439-92-1	
Nickel, Dissolved	**161**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:32	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 12:32	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:49	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 12:32	7440-28-0	D3
Zinc, Dissolved	**9740**	ug/L	1000	20	08/14/13 16:45	08/16/13 13:15	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**9.1**	ug/L	0.20	1	08/13/13 17:45	08/14/13 11:14	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	08/15/13 11:10	08/15/13 15:38	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/14/13 00:00	08/15/13 11:44	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	98-95-3	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Sample: 316-038 **Lab ID: 60150842001** Collected: 08/10/13 14:25 Received: 08/12/13 13:25 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	20	08/14/13 00:00	08/15/13 11:44	87-86-5	
Phenol	**12100**	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:44	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/14/13 00:00	08/15/13 11:44	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/14/13 00:00	08/15/13 11:44	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/14/13 00:00	08/15/13 11:44	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/14/13 00:00	08/15/13 11:44	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/14/13 00:00	08/15/13 11:44	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/14/13 00:00	08/15/13 11:44	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 22:01	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 22:01	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 22:01	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 22:01	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 22:01	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 22:01	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 22:01	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 22:01	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 22:01	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:01	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:01	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 22:01	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 22:01	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 22:01	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 22:01	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 22:01	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 22:01	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 22:01	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 22:01	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 22:01	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 22:01	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%	80-120	200		08/15/13 22:01	1868-53-7	D3
4-Bromofluorobenzene (S)	99	%	80-120	200		08/15/13 22:01	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		08/15/13 22:01	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		08/15/13 22:01	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 22:01		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**520**	mg/L	5.0	1		08/13/13 09:15		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/19/13 09:02		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Sample: 316-038 **Lab ID: 60150842001** Collected: 08/10/13 14:25 Received: 08/12/13 13:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2160**	mg/L	5.0	1		08/14/13 13:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/13/13 14:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**665**	mg/L	20.0	200		08/13/13 15:26	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47500**	mg/L	5000	500		08/15/13 08:01		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Sample: TRIP BLANK **Lab ID: 60150842002** Collected: 08/10/13 14:25 Received: 08/12/13 13:25 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		08/15/13 19:32	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 19:32	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 19:32	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 19:32	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 19:32	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 19:32	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 19:32	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 19:32	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 19:32	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:32	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:32	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 19:32	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 19:32	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 19:32	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 19:32	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 19:32	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:32	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:32	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 19:32	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 19:32	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 19:32	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	1		08/15/13 19:32	1868-53-7	
4-Bromofluorobenzene (S)	98	%	80-120	1		08/15/13 19:32	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		08/15/13 19:32	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		08/15/13 19:32	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 19:32		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: MERP/7595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150842001

METHOD BLANK: 1235705 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/14/13 10:47	

LABORATORY CONTROL SAMPLE: 1235706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235707 1235708

Parameter	Units	60150897001 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	4.8	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: MERP/7603
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150842001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150842001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150842001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: MSV/55578 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150842001, 60150842002

METHOD BLANK: 1236561 Matrix: Water
Associated Lab Samples: 60150842001, 60150842002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: OEXT/39841 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150842001

METHOD BLANK: 1235808 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/15/13 08:58	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/15/13 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachloroethane	ug/L	ND	5.0	08/15/13 08:58	
Naphthalene	ug/L	ND	5.0	08/15/13 08:58	
Nitrobenzene	ug/L	ND	5.0	08/15/13 08:58	
Pentachlorophenol	ug/L	ND	5.0	08/15/13 08:58	
Phenol	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Tribromophenol (S)	%	70	39-119	08/15/13 08:58	
2-Fluorobiphenyl (S)	%	68	36-120	08/15/13 08:58	
2-Fluorophenol (S)	%	49	18-120	08/15/13 08:58	
Nitrobenzene-d5 (S)	%	67	32-120	08/15/13 08:58	
Phenol-d6 (S)	%	37	12-120	08/15/13 08:58	
Terphenyl-d14 (S)	%	78	44-120	08/15/13 08:58	

LABORATORY CONTROL SAMPLE: 1235809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	44-120	
2,4,6-Trichlorophenol	ug/L	50	33.7	67	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.2	74	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.0	66	41-116	
Hexachlorocyclopentadiene	ug/L	100	59.0	59	31-120	
Hexachloroethane	ug/L	50	31.9	64	40-113	
Naphthalene	ug/L	50	34.2	68	48-120	
Nitrobenzene	ug/L	50	35.4	71	47-120	
Pentachlorophenol	ug/L	50	36.2	72	43-127	
Phenol	ug/L	50	17.6	35	15-112	
2,4,6-Tribromophenol (S)	%			71	39-119	
2-Fluorobiphenyl (S)	%			66	36-120	
2-Fluorophenol (S)	%			47	18-120	
Nitrobenzene-d5 (S)	%			65	32-120	
Phenol-d6 (S)	%			35	12-120	
Terphenyl-d14 (S)	%			72	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

MATRIX SPIKE SAMPLE: 1235810

Parameter	Units	60150566002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.9	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.0	72	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	31.7	63	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.2	66	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	57.6	58	11-120	
Hexachloroethane	ug/L	ND	50	32.1	64	40-113	
Naphthalene	ug/L	ND	50	34.1	68	32-120	
Nitrobenzene	ug/L	ND	50	35.1	70	35-128	
Pentachlorophenol	ug/L	ND	50	39.6	79	38-133	
Phenol	ug/L	ND	50	19.1	38	13-112	
2,4,6-Tribromophenol (S)	%				79	39-119	
2-Fluorobiphenyl (S)	%				68	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				64	32-120	
Phenol-d6 (S)	%				33	12-120	
Terphenyl-d14 (S)	%				76	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: WET/42840 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150842001

METHOD BLANK: 1235177 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/13/13 09:12	

LABORATORY CONTROL SAMPLE: 1235178

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: 1235181

Parameter	Units	60150850002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.6	45.7	103	78-114	

SAMPLE DUPLICATE: 1235182

Parameter	Units	60150596002 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 316-038
Pace Project No.: 60150842

QC Batch: WET/42945 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150842001

METHOD BLANK: 1238250 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/19/13 08:59	

LABORATORY CONTROL SAMPLE: 1238251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.2	101	64-132	

MATRIX SPIKE SAMPLE: 1238507

Parameter	Units	60150308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	96.1	21.5	114	84	64-132	

SAMPLE DUPLICATE: 1238506

Parameter	Units	60150776002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.8	8.9	13	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: WET/42871 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150842001

METHOD BLANK: 1236213 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/14/13 13:44	

SAMPLE DUPLICATE: 1236214

Parameter	Units	60150698001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	26.0	28.0	7	25	

SAMPLE DUPLICATE: 1236215

Parameter	Units	60150718001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	510	590	15	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: WET/42839
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150842001

SAMPLE DUPLICATE: 1235162

Parameter	Units	60150856001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	10.9	10.9	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: WETA/25781
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150842001

METHOD BLANK: 1235508 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/13/13 14:56	

LABORATORY CONTROL SAMPLE: 1235509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1235510

Parameter	Units	60150415003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.0	93	90-110	

MATRIX SPIKE SAMPLE: 1235512

Parameter	Units	60150412001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.0	2	4.7	89	90-110	M1

SAMPLE DUPLICATE: 1235511

Parameter	Units	60150253005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

QC Batch: WETA/25793 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150842001

METHOD BLANK: 1235988 Matrix: Water
Associated Lab Samples: 60150842001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/15/13 07:24	

LABORATORY CONTROL SAMPLE: 1235989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.2	108	90-110	

MATRIX SPIKE SAMPLE: 1236006

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14.0	50	89.3	151	90-110	M1

MATRIX SPIKE SAMPLE: 1236009

Parameter	Units	60150388001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65.4	50	125	120	90-110	M1

SAMPLE DUPLICATE: 1235991

Parameter	Units	60150386002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	16.7	15.7	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-038
Pace Project No.: 60150842

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150842001	**316-038**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150842001	**316-038**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150842001	**316-038**	EPA 245.1	MERP/7595	EPA 245.1	MERC/7551
60150842001	**316-038**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150842001	**316-038**	EPA 625	OEXT/39841	EPA 625	MSSV/12639
60150842001	**316-038**	EPA 624 Low	MSV/55578		
60150842002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60150842001	**316-038**	EPA 1664A	WET/42840		
60150842001	**316-038**	EPA 1664A	WET/42945		
60150842001	**316-038**	SM 2540D	WET/42871		
60150842001	**316-038**	SM 4500-H+B	WET/42839		
60150842001	**316-038**	EPA 350.1	WETA/25781		
60150842001	**316-038**	EPA 410.4	WETA/25793		

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Sample Condition Upon Receipt

WO# : 60150842

60150842

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: _____

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. 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	H_2SO_4 initial pH ~5; added 2mL H_2SO_4; Final ~3
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	HNO_3 initial pH ~6; added 2.5mL HNO_3; Final ~3
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: _____ Lot # of added preservative: 12510/12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Aug 05		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150842 3(AG1U) 3(AG1H) 5(DG9U) BP2U BP3U BP3S BP3N
1	316-038	OT	G	8/10/13	1425				15	9	1	1	2 3						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK								2	2																X		2(DG9U)				Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

CC1

CC2

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Hunter King	08-11-13	1000	[signature] / Feezor Eng	08-11-13	1000				
SITE ADDRESS: BRIDGETON LF	[signature] / Feezor Eng.	08-12-13	0850	Bill Stone 412	08-12-13	0850				
13570 ST. CHARLES ROCK RD				[signature] / PASI	8/10/13 8/12/13	1325	S.1	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Hunter King

SIGNATURE of SAMPLER: Hunter King

DATE Signed: 8/10/13

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

August 19, 2013

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

RE: Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-039
Pace Project No.: 60150840

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 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150840001	**316-039**	Water	08/11/13 11:59	08/12/13 13:25

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150840001	**316-039**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Sample: 316-039 **Lab ID: 60150840001** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31400**	mg/L	2.0	1	08/12/13 15:56	08/17/13 10:46		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

QC Batch: WET/42832 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150840001

METHOD BLANK: 1235010 Matrix: Water
Associated Lab Samples: 60150840001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/17/13 10:36	

LABORATORY CONTROL SAMPLE: 1235011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	89	85-115	

SAMPLE DUPLICATE: 1235012

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	69500	66400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-039
Pace Project No.: 60150840

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150840001	**316-039**	SM 5210B	WET/42832	SM 5210B	WET/42835

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150840

60150840

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 4.9

Date and initials of person examining contents: 8/12/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	Requested Analysis Filtered (Y/N): BOD SM 5210B	Residual Chlorine (Y/N)	60150840
1	316-039	OT	G	8/11/13	1159	—	—		1	1									X		BP2U 01
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng.	08-12-13	0850	Bill Stone 412	08-12-13	0850				
SITE ADDRESS: BRIDGETON LF				[signature] / PASC	8/12/13	1325	4.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 8/11/13

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

August 19, 2013

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

RE: Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-039
Pace Project No.: 60150841

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 316-039
Pace Project No.: 60150841

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150841001	**316-039**	Water	08/11/13 11:59	08/12/13 13:25
60150841002	**TRIP BLANK**	Water	08/11/13 11:59	08/12/13 13:25

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150841001	**316-039**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	JMC	1
60150841002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Sample: 316-039 **Lab ID: 60150841001** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 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	**10200**	ug/L	150	2	08/15/13 10:30	08/15/13 15:34	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:11	7440-36-0	D3
Arsenic	**740**	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:11	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:34	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:11	7440-43-9	D3
Chromium	**258**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:11	7440-47-3	
Cobalt	**60.6**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:11	7440-48-4	
Copper	**42.6**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:34	7440-50-8	
Iron	**789000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:34	7439-89-6	
Lead	**218**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:11	7439-92-1	
Nickel	**159**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:34	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 16:11	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:34	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 16:11	7440-28-0	D3
Zinc	**13700**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:31	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3450**	ug/L	150	2	08/14/13 16:45	08/16/13 11:29	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:29	7440-36-0	D3
Arsenic, Dissolved	**576**	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:29	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 12:29	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:29	7440-43-9	D3
Chromium, Dissolved	**216**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:29	7440-47-3	
Cobalt, Dissolved	**51.0**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:29	7440-48-4	
Copper, Dissolved	**21.5**	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:29	7440-50-8	
Iron, Dissolved	**511000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:29	7439-89-6	
Lead, Dissolved	**65.4**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:29	7439-92-1	
Nickel, Dissolved	**144**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:29	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 12:29	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:29	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 12:29	7440-28-0	D3
Zinc, Dissolved	**11100**	ug/L	1000	20	08/14/13 16:45	08/16/13 13:12	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**2.1**	ug/L	0.20	1	08/13/13 17:45	08/14/13 11:12	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	08/15/13 11:10	08/15/13 15:31	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/14/13 00:00	08/15/13 11:24	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	98-95-3	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Sample: 316-039 **Lab ID: 60150841001** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 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	20	08/14/13 00:00	08/15/13 11:24	87-86-5	
Phenol	**10000**	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/14/13 00:00	08/15/13 11:24	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/14/13 00:00	08/15/13 11:24	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/14/13 00:00	08/15/13 11:24	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/14/13 00:00	08/15/13 11:24	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/14/13 00:00	08/15/13 11:24	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/14/13 00:00	08/15/13 11:24	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/14/13 00:00	08/15/13 11:24	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 21:40	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 21:40	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 21:40	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 21:40	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 21:40	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 21:40	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 21:40	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 21:40	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 21:40	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 21:40	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 21:40	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 21:40	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 21:40	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 21:40	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 21:40	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 21:40	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 21:40	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 21:40	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 21:40	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 21:40	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 21:40	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%	80-120	200		08/15/13 21:40	1868-53-7	D3
4-Bromofluorobenzene (S)	99	%	80-120	200		08/15/13 21:40	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		08/15/13 21:40	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		08/15/13 21:40	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 21:40		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**703**	mg/L	5.0	1		08/13/13 09:15		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/19/13 09:01		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Sample: 316-039 **Lab ID: 60150841001** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2160**	mg/L	5.0	1		08/14/13 13:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/13/13 14:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**684**	mg/L	20.0	200		08/13/13 15:25	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**46700**	mg/L	5000	500		08/15/13 08:01		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Sample: TRIP BLANK **Lab ID: 60150841002** Collected: 08/11/13 11:59 Received: 08/12/13 13:25 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		08/15/13 19:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 19:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 19:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 19:10	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 19:10	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 19:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 19:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 19:10	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 19:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:10	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 19:10	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 19:10	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 19:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 19:10	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 19:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 19:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 19:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 19:10	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	100	%	80-120	1		08/15/13 19:10	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/15/13 19:10	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/15/13 19:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		08/15/13 19:10	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 19:10		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: MERP/7595
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150841001

METHOD BLANK: 1235705 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/14/13 10:47	

LABORATORY CONTROL SAMPLE: 1235706

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.7	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1235707 1235708

Parameter	Units	60150897001 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	4.8	96	97	70-130	1	20	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: MERP/7603
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150841001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150841001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150841001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: MSV/55578
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60150841001, 60150841002

METHOD BLANK: 1236561
Matrix: Water
Associated Lab Samples: 60150841001, 60150841002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: OEXT/39841 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150841001

METHOD BLANK: 1235808 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/15/13 08:58	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/15/13 08:58	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/15/13 08:58	
Hexachloroethane	ug/L	ND	5.0	08/15/13 08:58	
Naphthalene	ug/L	ND	5.0	08/15/13 08:58	
Nitrobenzene	ug/L	ND	5.0	08/15/13 08:58	
Pentachlorophenol	ug/L	ND	5.0	08/15/13 08:58	
Phenol	ug/L	ND	5.0	08/15/13 08:58	
2,4,6-Tribromophenol (S)	%	70	39-119	08/15/13 08:58	
2-Fluorobiphenyl (S)	%	68	36-120	08/15/13 08:58	
2-Fluorophenol (S)	%	49	18-120	08/15/13 08:58	
Nitrobenzene-d5 (S)	%	67	32-120	08/15/13 08:58	
Phenol-d6 (S)	%	37	12-120	08/15/13 08:58	
Terphenyl-d14 (S)	%	78	44-120	08/15/13 08:58	

LABORATORY CONTROL SAMPLE: 1235809

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	32.6	65	44-120	
2,4,6-Trichlorophenol	ug/L	50	33.7	67	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	37.2	74	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.0	66	41-116	
Hexachlorocyclopentadiene	ug/L	100	59.0	59	31-120	
Hexachloroethane	ug/L	50	31.9	64	40-113	
Naphthalene	ug/L	50	34.2	68	48-120	
Nitrobenzene	ug/L	50	35.4	71	47-120	
Pentachlorophenol	ug/L	50	36.2	72	43-127	
Phenol	ug/L	50	17.6	35	15-112	
2,4,6-Tribromophenol (S)	%			71	39-119	
2-Fluorobiphenyl (S)	%			66	36-120	
2-Fluorophenol (S)	%			47	18-120	
Nitrobenzene-d5 (S)	%			65	32-120	
Phenol-d6 (S)	%			35	12-120	
Terphenyl-d14 (S)	%			72	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

MATRIX SPIKE SAMPLE: 1235810

Parameter	Units	60150566002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	33.9	68	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	36.0	72	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	31.7	63	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	33.2	66	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	57.6	58	11-120	
Hexachloroethane	ug/L	ND	50	32.1	64	40-113	
Naphthalene	ug/L	ND	50	34.1	68	32-120	
Nitrobenzene	ug/L	ND	50	35.1	70	35-128	
Pentachlorophenol	ug/L	ND	50	39.6	79	38-133	
Phenol	ug/L	ND	50	19.1	38	13-112	
2,4,6-Tribromophenol (S)	%				79	39-119	
2-Fluorobiphenyl (S)	%				68	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				64	32-120	
Phenol-d6 (S)	%				33	12-120	
Terphenyl-d14 (S)	%				76	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: WET/42840 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150841001

METHOD BLANK: 1235177 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/13/13 09:12	

LABORATORY CONTROL SAMPLE: 1235178

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: 1235181

Parameter	Units	60150850002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	42.6	45.7	103	78-114	

SAMPLE DUPLICATE: 1235182

Parameter	Units	60150596002 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 316-039
Pace Project No.: 60150841

QC Batch: WET/42945 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150841001

METHOD BLANK: 1238250 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/19/13 08:59	

LABORATORY CONTROL SAMPLE: 1238251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.2	101	64-132	

MATRIX SPIKE SAMPLE: 1238507

Parameter	Units	60150308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	96.1	21.5	114	84	64-132	

SAMPLE DUPLICATE: 1238506

Parameter	Units	60150776002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.8	8.9	13	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: WET/42871
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150841001

METHOD BLANK: 1236213 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/14/13 13:44	

SAMPLE DUPLICATE: 1236214

Parameter	Units	60150698001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	26.0	28.0	7	25	

SAMPLE DUPLICATE: 1236215

Parameter	Units	60150718001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	510	590	15	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: WET/42839
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150841001

SAMPLE DUPLICATE: 1235162

Parameter	Units	60150856001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	10.9	10.9	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: WETA/25781 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150841001

METHOD BLANK: 1235508 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/13/13 14:56	

LABORATORY CONTROL SAMPLE: 1235509

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1235510

Parameter	Units	60150415003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.12	2	2.0	93	90-110	

MATRIX SPIKE SAMPLE: 1235512

Parameter	Units	60150412001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	3.0	2	4.7	89	90-110	M1

SAMPLE DUPLICATE: 1235511

Parameter	Units	60150253005 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.5	1.5	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

QC Batch: WETA/25793 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150841001

METHOD BLANK: 1235988 Matrix: Water
Associated Lab Samples: 60150841001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/15/13 07:24	

LABORATORY CONTROL SAMPLE: 1235989

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.2	108	90-110	

MATRIX SPIKE SAMPLE: 1236006

Parameter	Units	60150386001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	14.0	50	89.3	151	90-110	M1

MATRIX SPIKE SAMPLE: 1236009

Parameter	Units	60150388001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65.4	50	125	120	90-110	M1

SAMPLE DUPLICATE: 1235991

Parameter	Units	60150386002 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	16.7	15.7	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-039
Pace Project No.: 60150841

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150841001	**316-039**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150841001	**316-039**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150841001	**316-039**	EPA 245.1	MERP/7595	EPA 245.1	MERC/7551
60150841001	**316-039**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150841001	**316-039**	EPA 625	OEXT/39841	EPA 625	MSSV/12639
60150841001	**316-039**	EPA 624 Low	MSV/55578		
60150841002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60150841001	**316-039**	EPA 1664A	WET/42840		
60150841001	**316-039**	EPA 1664A	WET/42945		
60150841001	**316-039**	SM 2540D	WET/42871		
60150841001	**316-039**	SM 4500-H+B	WET/42839		
60150841001	**316-039**	EPA 350.1	WETA/25781		
60150841001	**316-039**	EPA 410.4	WETA/25793		

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Sample Condition Upon Receipt

WO# : 60150841

60150841

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: _____

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/12/13

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. 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	H_2SO_4 initial ~8, added 2ml H_2SO_4; Final ~3 HNO_3 initial ~7, added 2.5ml HNO_3; Final ~3
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 12510 / 12518 Lot # of added preservative 8/12
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Aug 05		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150841 3(AE1U) 3(AE1H) 5(DE9U) BE2U BE3U BE3H BE3I
1	316-039	OT	G	8/11/13	1159	—	—		~~18~~ 15	~~8~~ 10	1	1	~~2~~ 3						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK	—	—	—	—	—	—		2	2																X		2(DE9U)				Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng.	08-12-13	0850	Bill Stone 412	08-12-13	0850				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	8/12/13	1325	4.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: WILLIAM ABERNATHY

SIGNATURE of SAMPLER: [signature] DATE Signed: 8/11/13

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

September 06, 2013

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

RE: Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

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

Amended report revised 09/06/13 for re-preparation of Biochemical Oxygen Demand analysis.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

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 316-040
Pace Project No.: 60150924

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150924001	**316-040**	Water	08/12/13 12:30	08/14/13 06:05

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150924001	**316-040**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

Sample: 316-040 **Lab ID: 60150924001** Collected: 08/12/13 12:30 Received: 08/14/13 06:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**62700**	mg/L	2.0	1	08/14/13 10:28	08/19/13 10:41		
BOD, 5 day	**27600**	mg/L	2.0	1	08/28/13 10:57	09/02/13 11:38		H1,H2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

QC Batch: WET/42862 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150924001

METHOD BLANK: 1235833 Matrix: Water
Associated Lab Samples: 60150924001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/19/13 10:10	

LABORATORY CONTROL SAMPLE: 1235834

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	177	90	85-115	

SAMPLE DUPLICATE: 1235835

Parameter	Units	60150846010 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2.1	2.7	23	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

QC Batch: WET/43097
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150924001

METHOD BLANK: 1243515 Matrix: Water
Associated Lab Samples: 60150924001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/02/13 11:34	

LABORATORY CONTROL SAMPLE: 1243516

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

SAMPLE DUPLICATE: 1243517

Parameter	Units	60150924001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27600	28800	4	17	H1

SAMPLE DUPLICATE: 1243518

Parameter	Units	60151840001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	304	306	1	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
H2	Extraction or preparation conducted outside EPA method holding time.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-040
Pace Project No.: 60150924

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150924001	**316-040**	SM 5210B	WET/42862	SM 5210B	WET/42950
60150924001	**316-040**	SM 5210B	WET/43097	SM 5210B	WET/43202

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150924

60150924

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-192 / T-194 **Type of Ice:** (Wet) Blue None ☐ Samples received on ice, cooling process has begun.
(circle one)

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: ICE 8/14/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MD Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N: Analyses Test	BOD SM 5210B	Residual Chlorine (Y/N)	60150924
1	316-040	OT	G	8/12/13	12:30				1	1									X		1 (BP2U)
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heiker	8-13	1645	[illegible] 554	8/13/13	1645				
SITE ADDRESS: BRIDGETON LF				[illegible] IPASI	8/14/13	605	2.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	John Powell
SIGNATURE of SAMPLER:	[signature]
DATE Signed:	08-12-13

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

August 23, 2013

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

RE: Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

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

Amended report revised 08/23/13.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

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 316-040
Pace Project No.: 60150925

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150925001	**316-040**	Water	08/12/13 12:30	08/14/13 06:05
60150925002	**TRIP BLANK**	Water	08/12/13 12:30	08/14/13 06:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150925001	**316-040**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150925002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

Sample: 316-040 **Lab ID: 60150925001** Collected: 08/12/13 12:30 Received: 08/14/13 06:05 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	**5090**	ug/L	150	2	08/15/13 10:30	08/15/13 15:41	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:18	7440-36-0	D3
Arsenic	**614**	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:18	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:41	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:18	7440-43-9	D3
Chromium	**218**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:18	7440-47-3	
Cobalt	**46.1**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:18	7440-48-4	
Copper	ND	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:41	7440-50-8	D3
Iron	**593000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:41	7439-89-6	
Lead	**103**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:18	7439-92-1	
Nickel	**126**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:41	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 16:18	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:41	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 16:18	7440-28-0	D3
Zinc	**12200**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:50	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3400**	ug/L	150	2	08/14/13 16:45	08/16/13 11:56	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:39	7440-36-0	D3
Arsenic, Dissolved	**517**	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:39	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 12:39	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:39	7440-43-9	D3
Chromium, Dissolved	**211**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:39	7440-47-3	
Cobalt, Dissolved	**45.4**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:39	7440-48-4	D3
Copper, Dissolved	ND	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:56	7440-50-8	D3
Iron, Dissolved	**567000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:56	7439-89-6	
Lead, Dissolved	**64.8**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:39	7439-92-1	
Nickel, Dissolved	**125**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:39	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 12:39	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:56	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 12:39	7440-28-0	D3
Zinc, Dissolved	**10700**	ug/L	1000	20	08/14/13 16:45	08/16/13 13:21	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.99**	ug/L	0.20	1	08/19/13 17:00	08/20/13 09:11	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	08/15/13 11:10	08/15/13 15:42	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	6250	5	08/17/13 00:00	08/19/13 14:22	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	77-47-4	
Hexachloroethane	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	67-72-1	
Naphthalene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	91-20-3	
Nitrobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

Sample: 316-040 **Lab ID: 60150925001** Collected: 08/12/13 12:30 Received: 08/14/13 06:05 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	1250	5	08/17/13 00:00	08/19/13 14:22	87-86-5	
Phenol	**3470**	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:22	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	5	08/17/13 00:00	08/19/13 14:22	4165-60-0	P3,S0
2-Fluorobiphenyl (S)	0	%	36-120	5	08/17/13 00:00	08/19/13 14:22	321-60-8	S0
Terphenyl-d14 (S)	0	%	44-120	5	08/17/13 00:00	08/19/13 14:22	1718-51-0	S0
Phenol-d6 (S)	0	%	12-120	5	08/17/13 00:00	08/19/13 14:22	13127-88-3	S0
2-Fluorophenol (S)	0	%	18-120	5	08/17/13 00:00	08/19/13 14:22	367-12-4	S0
2,4,6-Tribromophenol (S)	0	%	39-119	5	08/17/13 00:00	08/19/13 14:22	118-79-6	S0
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 22:22	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 22:22	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 22:22	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 22:22	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 22:22	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 22:22	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 22:22	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 22:22	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 22:22	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:22	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:22	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 22:22	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 22:22	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 22:22	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 22:22	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 22:22	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 22:22	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 22:22	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 22:22	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 22:22	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 22:22	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	200		08/15/13 22:22	1868-53-7	D3
4-Bromofluorobenzene (S)	101	%	80-120	200		08/15/13 22:22	460-00-4	
Toluene-d8 (S)	101	%	80-120	200		08/15/13 22:22	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		08/15/13 22:22	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 22:22		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**456**	mg/L	5.0	1		08/15/13 09:55		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/19/13 09:02		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

Sample: 316-040 **Lab ID: 60150925001** Collected: 08/12/13 12:30 Received: 08/14/13 06:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**1720**	mg/L	5.0	1		08/15/13 10:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/15/13 17:45		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**663**	mg/L	20.0	200		08/14/13 11:55	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**59500**	mg/L	5000	500		08/19/13 10:39		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

Sample: TRIP BLANK **Lab ID: 60150925002** Collected: 08/12/13 12:30 Received: 08/14/13 06:05 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		08/15/13 19:53	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 19:53	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 19:53	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 19:53	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 19:53	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 19:53	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 19:53	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 19:53	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 19:53	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:53	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 19:53	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 19:53	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 19:53	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 19:53	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 19:53	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 19:53	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:53	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 19:53	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 19:53	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 19:53	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 19:53	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	1		08/15/13 19:53	1868-53-7	
4-Bromofluorobenzene (S)	100	%	80-120	1		08/15/13 19:53	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		08/15/13 19:53	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		08/15/13 19:53	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 19:53		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: MERP/7614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150925001

METHOD BLANK: 1238476 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:26	

LABORATORY CONTROL SAMPLE: 1238477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238478 1238479

Parameter	Units	60151227001 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	4.2	4.1	83	82	70-130	1	20	

MATRIX SPIKE SAMPLE: 1238480

Parameter	Units	60151150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	3.6	71	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: MERP/7603 Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1 Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150925001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150925001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150925001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: MSV/55578 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60150925001, 60150925002

METHOD BLANK: 1236561 Matrix: Water
Associated Lab Samples: 60150925001, 60150925002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: OEXT/39909
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60150925001

METHOD BLANK: 1237910
Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/19/13 08:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/19/13 08:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachloroethane	ug/L	ND	5.0	08/19/13 08:51	
Naphthalene	ug/L	ND	5.0	08/19/13 08:51	
Nitrobenzene	ug/L	ND	5.0	08/19/13 08:51	
Pentachlorophenol	ug/L	ND	5.0	08/19/13 08:51	
Phenol	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Tribromophenol (S)	%	96	39-119	08/19/13 08:51	
2-Fluorobiphenyl (S)	%	91	36-120	08/19/13 08:51	
2-Fluorophenol (S)	%	49	18-120	08/19/13 08:51	
Nitrobenzene-d5 (S)	%	89	32-120	08/19/13 08:51	
Phenol-d6 (S)	%	32	12-120	08/19/13 08:51	
Terphenyl-d14 (S)	%	96	44-120	08/19/13 08:51	

LABORATORY CONTROL SAMPLE: 1237911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.9	86	44-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	48.4	97	31-147	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	41-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	31-120	
Hexachloroethane	ug/L	50	41.8	84	40-113	
Naphthalene	ug/L	50	44.5	89	48-120	
Nitrobenzene	ug/L	50	45.6	91	47-120	
Pentachlorophenol	ug/L	50	46.3	93	43-127	
Phenol	ug/L	50	15.0	30	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			84	36-120	
2-Fluorophenol (S)	%			43	18-120	
Nitrobenzene-d5 (S)	%			81	32-120	M4
Phenol-d6 (S)	%			29	12-120	
Terphenyl-d14 (S)	%			87	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WET/42880 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150925001

METHOD BLANK: 1236364 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/15/13 09:54	

LABORATORY CONTROL SAMPLE: 1236365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.2	105	78-114	

MATRIX SPIKE SAMPLE: 1236368

Parameter	Units	60150967002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	42.2	103	78-114	

SAMPLE DUPLICATE: 1236369

Parameter	Units	60150906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	22.5	26.3	16	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WET/42945
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150925001

METHOD BLANK: 1238250 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/19/13 08:59	

LABORATORY CONTROL SAMPLE: 1238251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.2	101	64-132	

MATRIX SPIKE SAMPLE: 1238507

Parameter	Units	60150308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	96.1	21.5	114	84	64-132	

SAMPLE DUPLICATE: 1238506

Parameter	Units	60150776002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.8	8.9	13	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WET/42889
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150925001

METHOD BLANK: 1236535
Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/15/13 10:13	

SAMPLE DUPLICATE: 1236536

Parameter	Units	60150885003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1236545

Parameter	Units	60150904001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5380	5660	5	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WET/42911
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150925001

SAMPLE DUPLICATE: 1237036

Parameter	Units	60150697002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WETA/25790 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150925001

METHOD BLANK: 1235929 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/14/13 11:39	

LABORATORY CONTROL SAMPLE: 1235930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1235931

Parameter	Units	60150614004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	101	90-110	

MATRIX SPIKE SAMPLE: 1235933

Parameter	Units	60150559002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	12.8	10	21.4	87	90-110	M1

SAMPLE DUPLICATE: 1235932

Parameter	Units	60150607002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

QC Batch: WETA/25831 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150925001

METHOD BLANK: 1237595 Matrix: Water
Associated Lab Samples: 60150925001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/19/13 10:25	

LABORATORY CONTROL SAMPLE: 1237596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.1	106	90-110	

MATRIX SPIKE SAMPLE: 1237597

Parameter	Units	60150776003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	206	100	288	82	90-110	M1

MATRIX SPIKE SAMPLE: 1237599

Parameter	Units	60150482002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	43.9	50	89.5	91	90-110	

SAMPLE DUPLICATE: 1237598

Parameter	Units	60150566001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	15.2	14.5	5	25	

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QUALIFIERS

Project: BRIDGETON LF 316-040
Pace Project No.: 60150925

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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
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 316-040
Pace Project No.: 60150925

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150925001	**316-040**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150925001	**316-040**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150925001	**316-040**	EPA 245.1	MERP/7614	EPA 245.1	MERC/7570
60150925001	**316-040**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150925001	**316-040**	EPA 625	OEXT/39909	EPA 625	MSSV/12654
60150925001	**316-040**	EPA 624 Low	MSV/55578		
60150925002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60150925001	**316-040**	EPA 1664A	WET/42880		
60150925001	**316-040**	EPA 1664A	WET/42945		
60150925001	**316-040**	SM 2540D	WET/42889		
60150925001	**316-040**	SM 4500-H+B	WET/42911		
60150925001	**316-040**	EPA 350.1	WETA/25790		
60150925001	**316-040**	EPA 410.4	WETA/25831		

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Sample Condition Upon Receipt

WO# : 60150925

60150925

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: KE 8/14/13

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. 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	Initial pH ≈ 6. Added 2.5 mL of HNO_3 + H_2SO_4 preservative to each sample to get a pH of ≈ 3 + 1.5 respectively.
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 KE / Lot # of added preservative 12510 / 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 051313-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	2 of 5 316-040
		16.
Project sampled in USDA Regulated Area:	☐Yes ☑No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150925
1	316-040	OT	G	8/12/13	12:30				15	10	1	1	3			1(BP2U)			X	1(BP3N) X	X	X	1(BP3S) X	X	X	X	1(BP3U) X	X	3(AG1H)		3(AG1U) 5(DG9U) METALS LIST total & LF Dis. Al,Sb,As,Be,Cd,Cr, Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn and Mercury
2	TRIP BLANK								2	2																X		2(DG9U)			
3																															
4																															
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heikes	8-13-13	1645	BH 554	8/13/13	1645				
SITE ADDRESS: BRIDGETON LF				Kyle [signature] / PASI	8/14/13	605	2.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-12-13

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

August 20, 2013

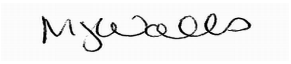
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

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



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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

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 316-041
Pace Project No.: 60150935

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150935001	**316-041**	Water	08/13/13 11:10	08/14/13 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150935001	**316-041**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

Sample: 316-041 **Lab ID: 60150935001** Collected: 08/13/13 11:10 Received: 08/14/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**35800**	mg/L	2.0	1	08/15/13 10:04	08/20/13 08:26		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

QC Batch: WET/42881 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60150935001

METHOD BLANK: 1236421 Matrix: Water
Associated Lab Samples: 60150935001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/20/13 08:03	

LABORATORY CONTROL SAMPLE: 1236422

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1236423

Parameter	Units	60150928001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	4.9	4.9	0	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-041
Pace Project No.: 60150935

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150935001	**316-041**	SM 5210B	WET/42881	SM 5210B	WET/42963

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60150935

60150935

Client Name: Barr Eng

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ zip/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: 4.5

Date and initials of person examining contents: 8/14/13

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency

State / Location

Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60150935
1	316-041	OT	G	8/13/13	1110				1	1									X		1BPZU 101
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	Emily Heikes	8-13-13	1645	DH 554	8/13/13	1645				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	8/14/13	0205	4.5	Y	X	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-13-13

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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Lenexa, KS 66219
(913)599-5665

August 30, 2013

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

RE: Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

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

Amended report revised 08/30/13 to include quality control data for Total Mercury.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

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 316-041
Pace Project No.: 60150936

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60150936001	**316-041**	Water	08/13/13 11:10	08/14/13 02:05
60150936002	**TRIP BLANK**	Water	08/13/13 11:10	08/14/13 02:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60150936001	**316-041**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60150936002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

Sample: 316-041 **Lab ID: 60150936001** Collected: 08/13/13 11:10 Received: 08/14/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**12400**	ug/L	150	2	08/15/13 10:30	08/15/13 15:45	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:22	7440-36-0	D3
Arsenic	**750**	ug/L	50.0	5	08/15/13 10:30	08/15/13 16:22	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/15/13 10:30	08/15/13 15:45	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:22	7440-43-9	D3
Chromium	**258**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:22	7440-47-3	
Cobalt	**69.5**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:22	7440-48-4	
Copper	**50.0**	ug/L	20.0	2	08/15/13 10:30	08/15/13 15:45	7440-50-8	
Iron	**929000**	ug/L	100	2	08/15/13 10:30	08/15/13 15:45	7439-89-6	
Lead	**222**	ug/L	25.0	5	08/15/13 10:30	08/15/13 16:22	7439-92-1	
Nickel	**153**	ug/L	10.0	2	08/15/13 10:30	08/15/13 15:45	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/15/13 10:30	08/15/13 16:22	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/15/13 10:30	08/15/13 15:45	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/15/13 10:30	08/15/13 16:22	7440-28-0	D3
Zinc	**14700**	ug/L	1000	20	08/15/13 10:30	08/15/13 16:53	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3800**	ug/L	150	2	08/14/13 16:45	08/16/13 11:52	7429-90-5	
Antimony, Dissolved	ND	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:36	7440-36-0	D3
Arsenic, Dissolved	**578**	ug/L	50.0	5	08/14/13 16:45	08/16/13 12:36	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/14/13 16:45	08/16/13 12:36	7440-41-7	
Cadmium, Dissolved	ND	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:36	7440-43-9	D3
Chromium, Dissolved	**215**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:36	7440-47-3	
Cobalt, Dissolved	**54.2**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:36	7440-48-4	
Copper, Dissolved	**23.5**	ug/L	20.0	2	08/14/13 16:45	08/16/13 11:52	7440-50-8	
Iron, Dissolved	**653000**	ug/L	100	2	08/14/13 16:45	08/16/13 11:52	7439-89-6	
Lead, Dissolved	**74.6**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:36	7439-92-1	
Nickel, Dissolved	**129**	ug/L	25.0	5	08/14/13 16:45	08/16/13 12:36	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/14/13 16:45	08/16/13 12:36	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/14/13 16:45	08/16/13 11:52	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/14/13 16:45	08/16/13 12:36	7440-28-0	D3
Zinc, Dissolved	**12400**	ug/L	1000	20	08/14/13 16:45	08/16/13 13:18	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.5**	ug/L	0.20	1	08/19/13 17:00	08/20/13 09:13	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	08/15/13 11:10	08/15/13 15:40	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	6250	5	08/17/13 00:00	08/19/13 14:43	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	77-47-4	
Hexachloroethane	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	67-72-1	
Naphthalene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	91-20-3	
Nitrobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	98-95-3	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

Sample: 316-041 **Lab ID: 60150936001** Collected: 08/13/13 11:10 Received: 08/14/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	87-86-5	
Phenol	**13500**	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 14:43	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	5	08/17/13 00:00	08/19/13 14:43	4165-60-0	P3,S0
2-Fluorobiphenyl (S)	0	%	36-120	5	08/17/13 00:00	08/19/13 14:43	321-60-8	S0
Terphenyl-d14 (S)	0	%	44-120	5	08/17/13 00:00	08/19/13 14:43	1718-51-0	S0
Phenol-d6 (S)	0	%	12-120	5	08/17/13 00:00	08/19/13 14:43	13127-88-3	S0
2-Fluorophenol (S)	0	%	18-120	5	08/17/13 00:00	08/19/13 14:43	367-12-4	S0
2,4,6-Tribromophenol (S)	0	%	39-119	5	08/17/13 00:00	08/19/13 14:43	118-79-6	S0
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 22:44	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 22:44	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 22:44	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 22:44	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 22:44	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 22:44	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 22:44	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 22:44	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 22:44	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:44	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 22:44	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 22:44	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 22:44	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 22:44	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 22:44	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 22:44	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 22:44	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 22:44	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 22:44	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 22:44	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 22:44	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%	80-120	200		08/15/13 22:44	1868-53-7	D3
4-Bromofluorobenzene (S)	101	%	80-120	200		08/15/13 22:44	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		08/15/13 22:44	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		08/15/13 22:44	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 22:44		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**477**	mg/L	5.0	1		08/15/13 09:55		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/19/13 09:02		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

Sample: 316-041 **Lab ID: 60150936001** Collected: 08/13/13 11:10 Received: 08/14/13 02:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2020**	mg/L	5.0	1		08/15/13 10:16		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		08/15/13 17:45		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**652**	mg/L	20.0	200		08/14/13 11:58	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52500**	mg/L	5000	500		08/19/13 10:39		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

Sample: TRIP BLANK **Lab ID: 60150936002** Collected: 08/13/13 11:10 Received: 08/14/13 02:05 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		08/15/13 20:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 20:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 20:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 20:14	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 20:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 20:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 20:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 20:14	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 20:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 20:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 20:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 20:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 20:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 20:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 20:14	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 20:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 20:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 20:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 20:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 20:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 20:14	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%	80-120	1		08/15/13 20:14	1868-53-7	
4-Bromofluorobenzene (S)	100	%	80-120	1		08/15/13 20:14	460-00-4	
Toluene-d8 (S)	101	%	80-120	1		08/15/13 20:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		08/15/13 20:14	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 20:14		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: MERP/7614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60150936001

METHOD BLANK: 1238476 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:26	

LABORATORY CONTROL SAMPLE: 1238477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238478 1238479

Parameter	Units	60151227001 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	4.2	4.1	83	82	70-130	1	20	

MATRIX SPIKE SAMPLE: 1238480

Parameter	Units	60151150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	3.6	71	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: MERP/7603
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60150936001

METHOD BLANK: 1236523 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/15/13 15:09	

LABORATORY CONTROL SAMPLE: 1236524

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.4	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236525 1236526

Parameter	Units	60150841001 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	2.4	2.0	46	38	70-130	18	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: MPRP/23858
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60150936001

METHOD BLANK: 1236595 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/15/13 15:02	
Antimony	ug/L	ND	10.0	08/15/13 15:02	
Arsenic	ug/L	ND	10.0	08/15/13 15:02	
Beryllium	ug/L	ND	1.0	08/15/13 15:02	
Cadmium	ug/L	ND	5.0	08/15/13 15:02	
Chromium	ug/L	ND	5.0	08/15/13 15:02	
Cobalt	ug/L	ND	5.0	08/15/13 15:02	
Copper	ug/L	ND	10.0	08/15/13 15:02	
Iron	ug/L	ND	50.0	08/15/13 15:02	
Lead	ug/L	ND	5.0	08/15/13 15:02	
Nickel	ug/L	ND	5.0	08/15/13 15:02	
Selenium	ug/L	ND	15.0	08/15/13 15:02	
Silver	ug/L	ND	7.0	08/15/13 15:02	
Thallium	ug/L	ND	20.0	08/15/13 15:02	
Zinc	ug/L	ND	50.0	08/15/13 15:02	

LABORATORY CONTROL SAMPLE: 1236596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	956	96	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	949	95	85-115	
Cobalt	ug/L	1000	995	100	85-115	
Copper	ug/L	1000	963	96	85-115	
Iron	ug/L	10000	10100	101	85-115	
Lead	ug/L	1000	1000	100	85-115	
Nickel	ug/L	1000	1000	100	85-115	
Selenium	ug/L	1000	996	100	85-115	
Silver	ug/L	500	481	96	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	949	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9770	100	97	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236597 1236598

Parameter	Units	60151032001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	990	975	99	97	70-130	2	10	
Beryllium	ug/L	ND	1000	1000	988	966	99	97	70-130	2	7	
Cadmium	ug/L	ND	1000	1000	998	979	100	98	70-130	2	10	
Chromium	ug/L	ND	1000	1000	953	938	95	94	70-130	2	10	
Cobalt	ug/L	ND	1000	1000	992	978	99	98	70-130	1	6	
Copper	ug/L	ND	1000	1000	987	972	99	97	70-130	2	11	
Iron	ug/L	879	10000	10000	10600	10300	97	95	70-130	2	10	
Lead	ug/L	ND	1000	1000	995	981	99	98	70-130	1	10	
Nickel	ug/L	ND	1000	1000	1000	986	100	99	70-130	1	10	
Selenium	ug/L	ND	1000	1000	898	894	90	89	70-130	0	10	
Silver	ug/L	ND	500	500	490	480	98	96	70-130	2	10	
Thallium	ug/L	ND	1000	1000	1010	995	101	100	70-130	2	6	
Zinc	ug/L	ND	1000	1000	946	932	94	93	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: MPRP/23850
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60150936001

METHOD BLANK: 1236263 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/16/13 11:09	
Antimony, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Arsenic, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Beryllium, Dissolved	ug/L	ND	1.0	08/16/13 11:09	
Cadmium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Chromium, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Cobalt, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Copper, Dissolved	ug/L	ND	10.0	08/16/13 11:09	
Iron, Dissolved	ug/L	116	50.0	08/16/13 11:09	
Lead, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Nickel, Dissolved	ug/L	ND	5.0	08/16/13 11:09	
Selenium, Dissolved	ug/L	ND	15.0	08/16/13 11:09	
Silver, Dissolved	ug/L	ND	7.0	08/16/13 11:09	
Thallium, Dissolved	ug/L	ND	20.0	08/16/13 11:09	
Zinc, Dissolved	ug/L	ND	50.0	08/16/13 11:09	

LABORATORY CONTROL SAMPLE: 1236264

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10600	106	85-115	
Antimony, Dissolved	ug/L	1000	1030	103	85-115	
Arsenic, Dissolved	ug/L	1000	970	97	85-115	
Beryllium, Dissolved	ug/L	1000	1030	103	85-115	
Cadmium, Dissolved	ug/L	1000	990	99	85-115	
Chromium, Dissolved	ug/L	1000	1010	101	85-115	
Cobalt, Dissolved	ug/L	1000	1030	103	85-115	
Copper, Dissolved	ug/L	1000	1030	103	85-115	
Iron, Dissolved	ug/L	10000	10600	106	85-115	
Lead, Dissolved	ug/L	1000	1040	104	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	980	98	85-115	
Silver, Dissolved	ug/L	500	504	101	85-115	
Thallium, Dissolved	ug/L	1000	1030	103	85-115	
Zinc, Dissolved	ug/L	1000	963	96	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	2850	10000	10000	13500	13700	107	109	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1236265 1236266

Parameter	Units	60150677001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	952	979	93	96	70-130	3	7	
Arsenic, Dissolved	ug/L	502	1000	1000	1560	1630	105	113	70-130	5	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	940	963	94	96	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1030	1050	102	104	70-130	2	10	
Chromium, Dissolved	ug/L	198	1000	1000	1120	1150	92	95	70-130	3	10	
Cobalt, Dissolved	ug/L	47.6	1000	1000	986	1010	94	96	70-130	2	6	
Copper, Dissolved	ug/L	20.7	1000	1000	1120	1130	109	111	70-130	2	11	
Iron, Dissolved	ug/L	478000	10000	10000	492000	507000	138	294	70-130	3	10	M1
Lead, Dissolved	ug/L	57.3	1000	1000	942	970	89	91	70-130	3	10	
Nickel, Dissolved	ug/L	138	1000	1000	1060	1080	92	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1040	1080	104	108	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	47.7	39.2	9	8	70-130	20	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	754	758	75	76	70-130	0	6	
Zinc, Dissolved	ug/L	9360	1000	1000	10300	10800	96	145	70-130	5	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: MSV/55578
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60150936001, 60150936002

METHOD BLANK: 1236561
Matrix: Water
Associated Lab Samples: 60150936001, 60150936002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: OEXT/39909 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60150936001

METHOD BLANK: 1237910 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/19/13 08:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/19/13 08:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachloroethane	ug/L	ND	5.0	08/19/13 08:51	
Naphthalene	ug/L	ND	5.0	08/19/13 08:51	
Nitrobenzene	ug/L	ND	5.0	08/19/13 08:51	
Pentachlorophenol	ug/L	ND	5.0	08/19/13 08:51	
Phenol	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Tribromophenol (S)	%	96	39-119	08/19/13 08:51	
2-Fluorobiphenyl (S)	%	91	36-120	08/19/13 08:51	
2-Fluorophenol (S)	%	49	18-120	08/19/13 08:51	
Nitrobenzene-d5 (S)	%	89	32-120	08/19/13 08:51	
Phenol-d6 (S)	%	32	12-120	08/19/13 08:51	
Terphenyl-d14 (S)	%	96	44-120	08/19/13 08:51	

LABORATORY CONTROL SAMPLE: 1237911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.9	86	44-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	48.4	97	31-147	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	41-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	31-120	
Hexachloroethane	ug/L	50	41.8	84	40-113	
Naphthalene	ug/L	50	44.5	89	48-120	
Nitrobenzene	ug/L	50	45.6	91	47-120	
Pentachlorophenol	ug/L	50	46.3	93	43-127	
Phenol	ug/L	50	15.0	30	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			84	36-120	
2-Fluorophenol (S)	%			43	18-120	
Nitrobenzene-d5 (S)	%			81	32-120	M4
Phenol-d6 (S)	%			29	12-120	
Terphenyl-d14 (S)	%			87	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WET/42880
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60150936001

METHOD BLANK: 1236364 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/15/13 09:54	

LABORATORY CONTROL SAMPLE: 1236365

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.2	105	78-114	

MATRIX SPIKE SAMPLE: 1236368

Parameter	Units	60150967002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	42.2	103	78-114	

SAMPLE DUPLICATE: 1236369

Parameter	Units	60150906001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	22.5	26.3	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WET/42945 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60150936001

METHOD BLANK: 1238250 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/19/13 08:59	

LABORATORY CONTROL SAMPLE: 1238251

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.2	101	64-132	

MATRIX SPIKE SAMPLE: 1238507

Parameter	Units	60150308001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	96.1	21.5	114	84	64-132	

SAMPLE DUPLICATE: 1238506

Parameter	Units	60150776002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.8	8.9	13	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WET/42889 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60150936001

METHOD BLANK: 1236535 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/15/13 10:13	

SAMPLE DUPLICATE: 1236536

Parameter	Units	60150885003 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1236545

Parameter	Units	60150904001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5380	5660	5	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WET/42911
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60150936001

SAMPLE DUPLICATE: 1237036

Parameter	Units	60150697002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WETA/25790
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60150936001

METHOD BLANK: 1235929 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/14/13 11:39	

LABORATORY CONTROL SAMPLE: 1235930

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1235931

Parameter	Units	60150614004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	2.1	101	90-110	

MATRIX SPIKE SAMPLE: 1235933

Parameter	Units	60150559002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	12.8	10	21.4	87	90-110	M1

SAMPLE DUPLICATE: 1235932

Parameter	Units	60150607002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

QC Batch: WETA/25831 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60150936001

METHOD BLANK: 1237595 Matrix: Water
Associated Lab Samples: 60150936001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/19/13 10:25	

LABORATORY CONTROL SAMPLE: 1237596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	53.1	106	90-110	

MATRIX SPIKE SAMPLE: 1237597

Parameter	Units	60150776003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	206	100	288	82	90-110	M1

MATRIX SPIKE SAMPLE: 1237599

Parameter	Units	60150482002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	43.9	50	89.5	91	90-110	

SAMPLE DUPLICATE: 1237598

Parameter	Units	60150566001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	15.2	14.5	5	25	

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QUALIFIERS

Project: BRIDGETON LF 316-041
Pace Project No.: 60150936

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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
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 316-041
Pace Project No.: 60150936

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60150936001	**316-041**	EPA 200.7	MPRP/23858	EPA 200.7	ICP/18681
60150936001	**316-041**	EPA 200.7	MPRP/23850	EPA 200.7	ICP/18678
60150936001	**316-041**	EPA 245.1	MERP/7614	EPA 245.1	MERC/7570
60150936001	**316-041**	EPA 245.1	MERP/7603	EPA 245.1	MERC/7559
60150936001	**316-041**	EPA 625	OEXT/39909	EPA 625	MSSV/12654
60150936001	**316-041**	EPA 624 Low	MSV/55578		
60150936002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60150936001	**316-041**	EPA 1664A	WET/42880		
60150936001	**316-041**	EPA 1664A	WET/42945		
60150936001	**316-041**	SM 2540D	WET/42889		
60150936001	**316-041**	SM 4500-H+B	WET/42911		
60150936001	**316-041**	EPA 350.1	WETA/25790		
60150936001	**316-041**	EPA 410.4	WETA/25831		

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Sample Condition Upon Receipt

WO# : 60150936

60150936

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ Zip lc

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

Cooler Temperature: 4.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PN 8/14/13

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. PH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.0 mL of H2SO4 to BP3S. PH 6.0/3.0 Added 2.5 mL of HNO3 to BP3N. PH 6.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	~~☐Yes~~ ☒No ☐N/A PN 8/14	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed PN / Lot # of added preservative 125/0/125/0
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 051313-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/14/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60150936
1	316-041 1BP3U 1BP2U 1BP3N 4-0	OT	G	8/13/13	1110	1BP35 5-0	3AG1U		13	9	1	1	2	3AG	1H	5DG	9U		X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK 2DG9U								2	2																X						Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
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11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily [signature]	8-13-13	1645	[signature] 554	8/13/13	1645				
SITE ADDRESS: BRIDGETON LF				[signature] PASI	8/14/13	0205	4-5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-13-13

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

August 21, 2013

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

RE: Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 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 316-042
Pace Project No.: 60151016

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 316-042
Pace Project No.: 60151016

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151016001	**316-042**	Water	08/14/13 11:10	08/15/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151016001	**316-042**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

Sample: 316-042 **Lab ID: 60151016001** Collected: 08/14/13 11:10 Received: 08/15/13 01:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**35300**	mg/L	2.0	1	08/16/13 09:43	08/21/13 10:41		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

QC Batch: WET/42912
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151016001

METHOD BLANK: 1237092 Matrix: Water
Associated Lab Samples: 60151016001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/21/13 10:24	

LABORATORY CONTROL SAMPLE: 1237093

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

SAMPLE DUPLICATE: 1237094

Parameter	Units	60151036003 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	10.1	12.7	23	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-042
Pace Project No.: 60151016

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151016001	**316-042**	SM 5210B	WET/42912	SM 5210B	WET/42988

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60151016

60151016

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-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: JW 8/15/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/15/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A – Required Client Information:	Section B – Required Project Information:	Section C – Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency:

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60151016
1	316-042	OT	G	8/14/13	1110				1	1									X		IBP2U (1)
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		8-14-13	1655	DH SS4	8/14	1655				
SITE ADDRESS: BRIDGETON LF				PASE	8/15	0130	2-9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-14-13

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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August 22, 2013

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

RE: Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 15, 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 316-042
Pace Project No.: 60151017

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 316-042
Pace Project No.: 60151017

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151017001	**316-042**	Water	08/14/13 11:10	08/15/13 01:30
60151017002	**TRIP BLANK**	Water	08/14/13 11:10	08/15/13 01:30

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151017001	**316-042**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151017002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Sample: 316-042 **Lab ID: 60151017001** Collected: 08/14/13 11:10 Received: 08/15/13 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	**9740**	ug/L	150	2	08/19/13 17:00	08/21/13 11:45	7429-90-5	
Antimony	**50.9**	ug/L	20.0	2	08/19/13 17:00	08/21/13 11:45	7440-36-0	
Arsenic	**678**	ug/L	20.0	2	08/19/13 17:00	08/21/13 11:45	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/19/13 17:00	08/21/13 11:45	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/19/13 17:00	08/21/13 11:49	7440-43-9	D3
Chromium	**254**	ug/L	10.0	2	08/19/13 17:00	08/21/13 11:45	7440-47-3	
Cobalt	**62.7**	ug/L	10.0	2	08/19/13 17:00	08/21/13 11:45	7440-48-4	
Copper	**35.7**	ug/L	20.0	2	08/19/13 17:00	08/21/13 11:45	7440-50-8	
Iron	**940000**	ug/L	100	2	08/19/13 17:00	08/21/13 11:45	7439-89-6	
Lead	**209**	ug/L	10.0	2	08/19/13 17:00	08/21/13 11:45	7439-92-1	
Nickel	**144**	ug/L	10.0	2	08/19/13 17:00	08/21/13 11:45	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/19/13 17:00	08/21/13 11:49	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/19/13 17:00	08/21/13 11:45	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/19/13 17:00	08/21/13 11:49	7440-28-0	D3
Zinc	**14600**	ug/L	1000	20	08/19/13 17:00	08/21/13 11:52	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	08/21/13 10:00	08/22/13 13:00	7429-90-5	
Antimony, Dissolved	**54.8**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:00	7440-36-0	D9
Arsenic, Dissolved	**672**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:00	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/21/13 10:00	08/22/13 13:10	7440-41-7	D3
Cadmium, Dissolved	**14.2**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:00	7440-43-9	D9
Chromium, Dissolved	**217**	ug/L	25.0	5	08/21/13 10:00	08/22/13 13:10	7440-47-3	
Cobalt, Dissolved	**50.7**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:00	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:00	7440-50-8	D3
Iron, Dissolved	**649000**	ug/L	100	2	08/21/13 10:00	08/22/13 13:00	7439-89-6	
Lead, Dissolved	**107**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:00	7439-92-1	
Nickel, Dissolved	**129**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:00	7440-02-0	
Selenium, Dissolved	**124**	ug/L	75.0	5	08/21/13 10:00	08/22/13 13:10	7782-49-2	
Silver, Dissolved	ND	ug/L	14.0	2	08/21/13 10:00	08/22/13 13:00	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/21/13 10:00	08/22/13 13:10	7440-28-0	D3
Zinc, Dissolved	**12700**	ug/L	1000	20	08/21/13 10:00	08/22/13 13:40	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.0**	ug/L	0.20	1	08/19/13 17:00	08/20/13 09:15	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	08/21/13 16:40	08/22/13 10:44	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	6250	5	08/17/13 00:00	08/19/13 15:04	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	77-47-4	
Hexachloroethane	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	67-72-1	
Naphthalene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	91-20-3	
Nitrobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	98-95-3	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

ANALYTICAL RESULTS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Sample: 316-042 **Lab ID: 60151017001** Collected: 08/14/13 11:10 Received: 08/15/13 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	1250	5	08/17/13 00:00	08/19/13 15:04	87-86-5	
Phenol	**12500**	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1250	5	08/17/13 00:00	08/19/13 15:04	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	5	08/17/13 00:00	08/19/13 15:04	4165-60-0	P3,S0
2-Fluorobiphenyl (S)	0	%	36-120	5	08/17/13 00:00	08/19/13 15:04	321-60-8	S0
Terphenyl-d14 (S)	0	%	44-120	5	08/17/13 00:00	08/19/13 15:04	1718-51-0	S0
Phenol-d6 (S)	0	%	12-120	5	08/17/13 00:00	08/19/13 15:04	13127-88-3	S0
2-Fluorophenol (S)	0	%	18-120	5	08/17/13 00:00	08/19/13 15:04	367-12-4	S0
2,4,6-Tribromophenol (S)	0	%	39-119	5	08/17/13 00:00	08/19/13 15:04	118-79-6	S0
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/15/13 23:05	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/15/13 23:05	75-27-4	
Bromoform	ND	ug/L	200	200		08/15/13 23:05	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/15/13 23:05	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/15/13 23:05	56-23-5	
Chloroethane	ND	ug/L	200	200		08/15/13 23:05	75-00-3	
Chloroform	ND	ug/L	200	200		08/15/13 23:05	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/15/13 23:05	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/15/13 23:05	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 23:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/15/13 23:05	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/15/13 23:05	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/15/13 23:05	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/15/13 23:05	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/15/13 23:05	127-18-4	
Toluene	ND	ug/L	200	200		08/15/13 23:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/15/13 23:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/15/13 23:05	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/15/13 23:05	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/15/13 23:05	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/15/13 23:05	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	102	%	80-120	200		08/15/13 23:05	1868-53-7	D3
4-Bromofluorobenzene (S)	99	%	80-120	200		08/15/13 23:05	460-00-4	
Toluene-d8 (S)	100	%	80-120	200		08/15/13 23:05	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		08/15/13 23:05	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/15/13 23:05		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**46.4**	mg/L	5.0	1		08/19/13 14:51		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/22/13 11:38		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Sample: 316-042 **Lab ID: 60151017001** Collected: 08/14/13 11:10 Received: 08/15/13 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	**1260**	mg/L	5.0	1		08/16/13 08:51		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/17/13 11:05		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**655**	mg/L	20.0	200		08/16/13 13:41	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**55300**	mg/L	5000	500		08/21/13 14:19		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Sample: TRIP BLANK **Lab ID: 60151017002** Collected: 08/14/13 11:10 Received: 08/15/13 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		08/15/13 20:36	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/15/13 20:36	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/15/13 20:36	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/15/13 20:36	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/15/13 20:36	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/15/13 20:36	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/15/13 20:36	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/15/13 20:36	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/15/13 20:36	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 20:36	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/15/13 20:36	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/15/13 20:36	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/15/13 20:36	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/15/13 20:36	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/15/13 20:36	127-18-4	
Toluene	ND	ug/L	1.0	1		08/15/13 20:36	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/15/13 20:36	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/15/13 20:36	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/15/13 20:36	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/15/13 20:36	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/15/13 20:36	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%	80-120	1		08/15/13 20:36	1868-53-7	
4-Bromofluorobenzene (S)	98	%	80-120	1		08/15/13 20:36	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/15/13 20:36	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		08/15/13 20:36	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/15/13 20:36		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: MERP/7614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151017001

METHOD BLANK: 1238476 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:26	

LABORATORY CONTROL SAMPLE: 1238477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238478 1238479

Parameter	Units	60151227001 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	4.2	4.1	83	82	70-130	1	20	

MATRIX SPIKE SAMPLE: 1238480

Parameter	Units	60151150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	3.6	71	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: MERP/7624
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151017001

METHOD BLANK: 1239391 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/22/13 10:35	

LABORATORY CONTROL SAMPLE: 1239392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239393 1239394

Parameter	Units	60151017001 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	0.20	0.23	4	5	70-130	15	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: MPRP/23889
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151017001

METHOD BLANK: 1238302 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/20/13 17:57	
Antimony	ug/L	ND	10.0	08/20/13 17:57	
Arsenic	ug/L	ND	10.0	08/20/13 17:57	
Beryllium	ug/L	ND	1.0	08/20/13 17:57	
Cadmium	ug/L	ND	5.0	08/20/13 17:57	
Chromium	ug/L	ND	5.0	08/20/13 17:57	
Cobalt	ug/L	ND	5.0	08/20/13 17:57	
Copper	ug/L	ND	10.0	08/20/13 17:57	
Iron	ug/L	ND	50.0	08/20/13 17:57	
Lead	ug/L	ND	5.0	08/20/13 17:57	
Nickel	ug/L	ND	5.0	08/20/13 17:57	
Selenium	ug/L	ND	15.0	08/20/13 17:57	
Silver	ug/L	ND	7.0	08/20/13 17:57	
Thallium	ug/L	ND	20.0	08/20/13 17:57	
Zinc	ug/L	ND	50.0	08/20/13 17:57	

LABORATORY CONTROL SAMPLE: 1238303

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9780	98	85-115	
Antimony	ug/L	1000	966	97	85-115	
Arsenic	ug/L	1000	916	92	85-115	
Beryllium	ug/L	1000	951	95	85-115	
Cadmium	ug/L	1000	944	94	85-115	
Chromium	ug/L	1000	935	94	85-115	
Cobalt	ug/L	1000	964	96	85-115	
Copper	ug/L	1000	930	93	85-115	
Iron	ug/L	10000	9580	96	85-115	
Lead	ug/L	1000	958	96	85-115	
Nickel	ug/L	1000	974	97	85-115	
Selenium	ug/L	1000	966	97	85-115	
Silver	ug/L	500	470	94	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	936	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238304 1238305

Parameter	Units	60150921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2900	10000	10000	12800	12400	99	95	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238304 1238305

Parameter	Units	60150921001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	993	982	99	98	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	971	959	97	96	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	982	956	98	96	70-130	3	7	
Cadmium	ug/L	ND	1000	1000	974	965	97	96	70-130	1	10	
Chromium	ug/L	ND	1000	1000	943	936	94	94	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	967	957	96	95	70-130	1	6	
Copper	ug/L	ND	1000	1000	963	956	96	95	70-130	1	11	
Iron	ug/L	69.8	10000	10000	9870	9570	98	95	70-130	3	10	
Lead	ug/L	ND	1000	1000	940	928	94	93	70-130	1	10	
Nickel	ug/L	14.3	1000	1000	981	973	97	96	70-130	1	10	
Selenium	ug/L	ND	1000	1000	991	989	99	99	70-130	0	10	
Silver	ug/L	ND	500	500	486	482	97	96	70-130	1	10	
Thallium	ug/L	ND	1000	1000	896	888	90	89	70-130	1	6	
Zinc	ug/L	ND	1000	1000	972	970	97	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1238306

Parameter	Units	60151167002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	98.9	10000	9920	98	70-130	
Antimony	ug/L	ND	1000	1020	102	70-130	
Arsenic	ug/L	12.3	1000	1020	101	70-130	
Beryllium	ug/L	ND	1000	940	94	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	98.7	1000	1020	92	70-130	
Cobalt	ug/L	ND	1000	917	92	70-130	
Copper	ug/L	12.8	1000	995	98	70-130	
Iron	ug/L	118	10000	9380	93	70-130	
Lead	ug/L	ND	1000	884	88	70-130	
Nickel	ug/L	ND	1000	920	92	70-130	
Selenium	ug/L	ND	1000	1030	103	70-130	
Silver	ug/L	ND	500	507	101	70-130	
Thallium	ug/L	ND	1000	793	79	70-130	
Zinc	ug/L	53.3	1000	976	92	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: MPRP/23917
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151017001

METHOD BLANK: 1239259 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/22/13 12:13	
Antimony, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Arsenic, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Beryllium, Dissolved	ug/L	ND	1.0	08/22/13 12:13	
Cadmium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Chromium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Cobalt, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Copper, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Iron, Dissolved	ug/L	ND	50.0	08/22/13 12:13	
Lead, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Nickel, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Selenium, Dissolved	ug/L	ND	15.0	08/22/13 12:13	
Silver, Dissolved	ug/L	ND	7.0	08/22/13 12:13	
Thallium, Dissolved	ug/L	ND	20.0	08/22/13 12:13	
Zinc, Dissolved	ug/L	ND	50.0	08/22/13 12:13	

LABORATORY CONTROL SAMPLE: 1239260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9580	96	85-115	
Antimony, Dissolved	ug/L	1000	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	949	95	85-115	
Beryllium, Dissolved	ug/L	1000	970	97	85-115	
Cadmium, Dissolved	ug/L	1000	966	97	85-115	
Chromium, Dissolved	ug/L	1000	934	93	85-115	
Cobalt, Dissolved	ug/L	1000	978	98	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	9670	97	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	990	99	85-115	
Selenium, Dissolved	ug/L	1000	982	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	936	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 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	35.9J	10000	10000	9700	9680	97	96	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	981	975	98	97	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	985	985	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	989	983	99	98	70-130	1	10	
Chromium, Dissolved	ug/L	1.1J	1000	1000	939	936	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	971	966	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	989	100	99	70-130	1	11	
Iron, Dissolved	ug/L	16.1J	10000	10000	9600	9580	96	96	70-130	0	10	
Lead, Dissolved	ug/L	2.8J	1000	1000	974	972	97	97	70-130	0	10	
Nickel, Dissolved	ug/L	8.4	1000	1000	990	986	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	997	986	100	99	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	478	474	96	95	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	989	985	99	98	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	921	922	92	92	70-130	0	11	

MATRIX SPIKE SAMPLE: 1239263

Parameter	Units	60151047002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	26.4J	10000	9720	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	973	97	70-130	
Beryllium, Dissolved	ug/L	ND	1000	989	99	70-130	
Cadmium, Dissolved	ug/L	ND	1000	986	99	70-130	
Chromium, Dissolved	ug/L	1.6J	1000	952	95	70-130	
Cobalt, Dissolved	ug/L	ND	1000	969	97	70-130	
Copper, Dissolved	ug/L	ND	1000	991	99	70-130	
Iron, Dissolved	ug/L	28.2J	10000	9670	96	70-130	
Lead, Dissolved	ug/L	ND	1000	974	97	70-130	
Nickel, Dissolved	ug/L	ND	1000	983	98	70-130	
Selenium, Dissolved	ug/L	ND	1000	985	98	70-130	
Silver, Dissolved	ug/L	ND	500	479	96	70-130	
Thallium, Dissolved	ug/L	ND	1000	986	99	70-130	
Zinc, Dissolved	ug/L	ND	1000	929	93	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: MSV/55578
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60151017001, 60151017002

METHOD BLANK: 1236561 Matrix: Water
Associated Lab Samples: 60151017001, 60151017002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,2-Dichloroethane	ug/L	ND	1.0	08/15/13 17:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/15/13 17:02	
Benzene	ug/L	ND	1.0	08/15/13 17:02	
Bromodichloromethane	ug/L	ND	1.0	08/15/13 17:02	
Bromoform	ug/L	ND	1.0	08/15/13 17:02	
Bromomethane	ug/L	ND	5.0	08/15/13 17:02	
Carbon tetrachloride	ug/L	ND	1.0	08/15/13 17:02	
Chloroethane	ug/L	ND	1.0	08/15/13 17:02	
Chloroform	ug/L	ND	1.0	08/15/13 17:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Ethylbenzene	ug/L	ND	1.0	08/15/13 17:02	
Methylene chloride	ug/L	ND	1.0	08/15/13 17:02	
Tetrachloroethene	ug/L	ND	1.0	08/15/13 17:02	
Toluene	ug/L	ND	1.0	08/15/13 17:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Trichloroethene	ug/L	ND	1.0	08/15/13 17:02	
Vinyl chloride	ug/L	ND	1.0	08/15/13 17:02	
Xylene (Total)	ug/L	ND	3.0	08/15/13 17:02	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/15/13 17:02	
4-Bromofluorobenzene (S)	%	100	80-120	08/15/13 17:02	
Toluene-d8 (S)	%	100	80-120	08/15/13 17:02	

LABORATORY CONTROL SAMPLE: 1236562

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.2	101	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	17.9	90	59-138	
1,1,2-Trichloroethane	ug/L	20	18.2	91	69-127	
1,2-Dichloroethane	ug/L	20	19.3	97	71-129	
1,4-Dichlorobenzene	ug/L	20	18.5	93	68-124	
Benzene	ug/L	20	19.0	95	73-129	
Bromodichloromethane	ug/L	20	18.9	95	63-129	
Bromoform	ug/L	20	17.0	85	52-123	
Bromomethane	ug/L	20	21.0	105	10-160	
Carbon tetrachloride	ug/L	20	19.0	95	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	18.9	94	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.6	98	70-125	

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

LABORATORY CONTROL SAMPLE: 1236562

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	19.9	100	56-135	
Tetrachloroethene	ug/L	20	19.2	96	64-143	
Toluene	ug/L	20	19.0	95	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.8	94	67-149	
Trichloroethene	ug/L	20	19.7	98	71-130	
Vinyl chloride	ug/L	20	19.8	99	41-160	
Xylene (Total)	ug/L	60	57.6	96	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			100	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1236563

Parameter	Units	60150779001 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	3690	92	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3640	91	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3880	97	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3630	89	18-147	
Benzene	ug/L	ND	4000	3720	93	37-151	
Bromodichloromethane	ug/L	ND	4000	3770	94	35-155	
Bromoform	ug/L	ND	4000	3390	82	45-133	
Bromomethane	ug/L	ND	4000	3150	79	10-160	
Carbon tetrachloride	ug/L	ND	4000	4110	103	70-140	
Chloroethane	ug/L	ND	4000	3610	90	14-160	
Chloroform	ug/L	ND	4000	3820	93	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	4020	100	19-160	
Ethylbenzene	ug/L	ND	4000	3890	97	37-154	
Methylene chloride	ug/L	ND	4000	3940	97	15-156	
Tetrachloroethene	ug/L	ND	4000	4070	102	64-148	
Toluene	ug/L	ND	4000	3850	96	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3840	96	54-156	
Trichloroethene	ug/L	ND	4000	3790	95	71-157	
Vinyl chloride	ug/L	ND	4000	3970	99	10-160	
Xylene (Total)	ug/L	ND	12000	11700	98	12-153	
1,2-Dichloroethane-d4 (S)	%				99	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: OEXT/39909 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151017001

METHOD BLANK: 1237910 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/19/13 08:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/19/13 08:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/19/13 08:51	
Hexachloroethane	ug/L	ND	5.0	08/19/13 08:51	
Naphthalene	ug/L	ND	5.0	08/19/13 08:51	
Nitrobenzene	ug/L	ND	5.0	08/19/13 08:51	
Pentachlorophenol	ug/L	ND	5.0	08/19/13 08:51	
Phenol	ug/L	ND	5.0	08/19/13 08:51	
2,4,6-Tribromophenol (S)	%	96	39-119	08/19/13 08:51	
2-Fluorobiphenyl (S)	%	91	36-120	08/19/13 08:51	
2-Fluorophenol (S)	%	49	18-120	08/19/13 08:51	
Nitrobenzene-d5 (S)	%	89	32-120	08/19/13 08:51	
Phenol-d6 (S)	%	32	12-120	08/19/13 08:51	
Terphenyl-d14 (S)	%	96	44-120	08/19/13 08:51	

LABORATORY CONTROL SAMPLE: 1237911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	42.9	86	44-120	
2,4,6-Trichlorophenol	ug/L	50	44.4	89	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	48.4	97	31-147	
Hexachloro-1,3-butadiene	ug/L	50	42.7	85	41-116	
Hexachlorocyclopentadiene	ug/L	100	72.2	72	31-120	
Hexachloroethane	ug/L	50	41.8	84	40-113	
Naphthalene	ug/L	50	44.5	89	48-120	
Nitrobenzene	ug/L	50	45.6	91	47-120	
Pentachlorophenol	ug/L	50	46.3	93	43-127	
Phenol	ug/L	50	15.0	30	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			84	36-120	
2-Fluorophenol (S)	%			43	18-120	
Nitrobenzene-d5 (S)	%			81	32-120	M4
Phenol-d6 (S)	%			29	12-120	
Terphenyl-d14 (S)	%			87	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: WET/42947
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151017001

METHOD BLANK: 1238262 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/19/13 14:49	

LABORATORY CONTROL SAMPLE: 1238263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.2	105	78-114	

MATRIX SPIKE SAMPLE: 1238264

Parameter	Units	60151032002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.2	92	78-114	

SAMPLE DUPLICATE: 1238265

Parameter	Units	60151036001 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 316-042
Pace Project No.: 60151017

QC Batch: WET/43002 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151017001

METHOD BLANK: 1240048 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/22/13 11:37	

LABORATORY CONTROL SAMPLE: 1240049

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: 1240059

Parameter	Units	60151389002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.3	20	27.9	48	64-132	M1

SAMPLE DUPLICATE: 1240060

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: WET/42913 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151017001

METHOD BLANK: 1237120 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/16/13 08:50	

SAMPLE DUPLICATE: 1237121

Parameter	Units	60151057001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	15.0	7	25	

SAMPLE DUPLICATE: 1237122

Parameter	Units	60151103002 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 316-042
Pace Project No.: 60151017

QC Batch: WET/42933
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151017001

SAMPLE DUPLICATE: 1238067

Parameter	Units	60151023002 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 316-042
Pace Project No.: 60151017

QC Batch: WETA/25823 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151017001

METHOD BLANK: 1237144 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/16/13 13:38	

LABORATORY CONTROL SAMPLE: 1237145

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

MATRIX SPIKE SAMPLE: 1237146

Parameter	Units	60151048001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	7.7	4	9.5	46	90-110	M1

MATRIX SPIKE SAMPLE: 1237148

Parameter	Units	60150960003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	90	90-110	

SAMPLE DUPLICATE: 1237147

Parameter	Units	60150960001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

QC Batch: WETA/25868 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151017001

METHOD BLANK: 1238985 Matrix: Water
Associated Lab Samples: 60151017001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/21/13 13:53	

LABORATORY CONTROL SAMPLE: 1238986

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: 1238987

Parameter	Units	60150731024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	21.0	50	72.7	103	90-110	

MATRIX SPIKE SAMPLE: 1238989

Parameter	Units	60150731026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	15.6	50	63.0	95	90-110	

SAMPLE DUPLICATE: 1238988

Parameter	Units	60150731025 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	5.9J		25	

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QUALIFIERS

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
P3	Sample extract could not be concentrated to the routine final volume, resulting in elevated reporting limits.
S0	Surrogate recovery outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-042
Pace Project No.: 60151017

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151017001	**316-042**	EPA 200.7	MPRP/23889	EPA 200.7	ICP/18704
60151017001	**316-042**	EPA 200.7	MPRP/23917	EPA 200.7	ICP/18724
60151017001	**316-042**	EPA 245.1	MERP/7614	EPA 245.1	MERC/7570
60151017001	**316-042**	EPA 245.1	MERP/7624	EPA 245.1	MERC/7581
60151017001	**316-042**	EPA 625	OEXT/39909	EPA 625	MSSV/12654
60151017001	**316-042**	EPA 624 Low	MSV/55578		
60151017002	**TRIP BLANK**	EPA 624 Low	MSV/55578		
60151017001	**316-042**	EPA 1664A	WET/42947		
60151017001	**316-042**	EPA 1664A	WET/43002		
60151017001	**316-042**	SM 2540D	WET/42913		
60151017001	**316-042**	SM 4500-H+B	WET/42933		
60151017001	**316-042**	EPA 350.1	WETA/25823		
60151017001	**316-042**	EPA 410.4	WETA/25868		

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Sample Condition Upon Receipt

WO# : 60151017

60151017

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2-9

Date and initials of person examining contents: PV 8/15/13

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. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2-5 ml of HNO3 to BP3N. pH ≤ 2
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A PV 8/15/13	Added 2.0 ml of H2SO4 to BP3S. pH ≤ 2
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed PV Lot # of added preservative 12510 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/15/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60151017
1	316-042 1BP3U 1BP3S 2-5 1BP3N 4-0	OT	G	8/14/13	1110	~~1BP3~~	1BP2U		13	9	1	1	2	3A	G1H	3A	G1U		X	X	X	X	X	X	X	X	X	X	5DG9U		METALS LIST total & LF Dis:
2	TRIP BLANK 2DG9U					8/15			2	2																X					Al,Sb,As,Be,Cd,Cr,
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Hecker	8-14-13	1655	[signature] 554	8/14/14	1655				
SITE ADDRESS: BRIDGETON LF				[signature] PASE	8/15	0130	2.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-14-13

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

August 23, 2013

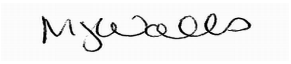
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

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



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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

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 316-043
Pace Project No.: 60151162

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151162001	**316-043**	Water	08/15/13 12:40	08/16/13 01:05
60151162002	**TRIP BLANK**	Water	08/15/13 12:40	08/16/13 01:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151162001	**316-043**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	26
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151162002	**TRIP BLANK**	EPA 624 Low	JKL	26

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Sample: 316-043 **Lab ID: 60151162001** Collected: 08/15/13 12:40 Received: 08/16/13 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	**8380**	ug/L	150	2	08/20/13 14:00	08/22/13 18:56	7429-90-5	
Antimony	**40.8**	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:56	7440-36-0	
Arsenic	**695**	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:56	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/20/13 14:00	08/22/13 19:29	7440-41-7	D3
Cadmium	**17.0**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:56	7440-43-9	
Chromium	**252**	ug/L	25.0	5	08/20/13 14:00	08/22/13 19:29	7440-47-3	
Cobalt	**51.4**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:56	7440-48-4	
Copper	**22.2**	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:56	7440-50-8	
Iron	**814000**	ug/L	100	2	08/20/13 14:00	08/22/13 18:56	7439-89-6	
Lead	**214**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:56	7439-92-1	
Nickel	**136**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:56	7440-02-0	
Selenium	**95.6**	ug/L	75.0	5	08/20/13 14:00	08/22/13 19:29	7782-49-2	
Silver	ND	ug/L	14.0	2	08/20/13 14:00	08/22/13 18:56	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/20/13 14:00	08/22/13 19:29	7440-28-0	D3
Zinc	**13000**	ug/L	1000	20	08/20/13 14:00	08/22/13 19:43	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3410**	ug/L	150	2	08/21/13 10:00	08/22/13 13:03	7429-90-5	
Antimony, Dissolved	**49.0**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:03	7440-36-0	D9
Arsenic, Dissolved	**665**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:03	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/21/13 10:00	08/22/13 13:33	7440-41-7	D3
Cadmium, Dissolved	**13.1**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:03	7440-43-9	
Chromium, Dissolved	**215**	ug/L	25.0	5	08/21/13 10:00	08/22/13 13:33	7440-47-3	
Cobalt, Dissolved	**44.0**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:03	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:03	7440-50-8	D3
Iron, Dissolved	**591000**	ug/L	100	2	08/21/13 10:00	08/22/13 13:03	7439-89-6	
Lead, Dissolved	**105**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:03	7439-92-1	
Nickel, Dissolved	**122**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:03	7440-02-0	
Selenium, Dissolved	**118**	ug/L	75.0	5	08/21/13 10:00	08/22/13 13:33	7782-49-2	D9
Silver, Dissolved	ND	ug/L	14.0	2	08/21/13 10:00	08/22/13 13:03	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/21/13 10:00	08/22/13 13:33	7440-28-0	D3
Zinc, Dissolved	**11200**	ug/L	1000	20	08/21/13 10:00	08/22/13 13:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**4.1**	ug/L	0.20	1	08/19/13 17:00	08/20/13 09:20	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	08/21/13 16:40	08/22/13 12:15	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/21/13 00:00	08/22/13 13:19	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Sample: 316-043 **Lab ID: 60151162001** Collected: 08/15/13 12:40 Received: 08/16/13 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	20	08/21/13 00:00	08/22/13 13:19	87-86-5	
Phenol	**15900**	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 13:19	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/21/13 00:00	08/22/13 13:19	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/21/13 00:00	08/22/13 13:19	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/21/13 00:00	08/22/13 13:19	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/21/13 00:00	08/22/13 13:19	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/21/13 00:00	08/22/13 13:19	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/21/13 00:00	08/22/13 13:19	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/16/13 20:51	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/16/13 20:51	75-27-4	
Bromoform	ND	ug/L	200	200		08/16/13 20:51	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/16/13 20:51	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/16/13 20:51	56-23-5	
Chloroethane	ND	ug/L	200	200		08/16/13 20:51	75-00-3	
Chloroform	ND	ug/L	200	200		08/16/13 20:51	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/16/13 20:51	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/16/13 20:51	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/16/13 20:51	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/16/13 20:51	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/16/13 20:51	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/16/13 20:51	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/16/13 20:51	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/16/13 20:51	127-18-4	
Toluene	ND	ug/L	200	200		08/16/13 20:51	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/16/13 20:51	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/16/13 20:51	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/16/13 20:51	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/16/13 20:51	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/16/13 20:51	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	103	%	80-120	200		08/16/13 20:51	1868-53-7	D3,HS
4-Bromofluorobenzene (S)	97	%	80-120	200		08/16/13 20:51	460-00-4	
Toluene-d8 (S)	99	%	80-120	200		08/16/13 20:51	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		08/16/13 20:51	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/16/13 20:51		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**194**	mg/L	5.0	1		08/19/13 14:52		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/22/13 11:38		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Sample: 316-043 **Lab ID: 60151162001** Collected: 08/15/13 12:40 Received: 08/16/13 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	**1460**	mg/L	5.0	1		08/16/13 14:45		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/17/13 12:01		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**748**	mg/L	20.0	200		08/20/13 14:28	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**70400**	mg/L	5000	500		08/21/13 14:28		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Sample: TRIP BLANK **Lab ID: 60151162002** Collected: 08/15/13 12:40 Received: 08/16/13 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		08/16/13 21:33	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/16/13 21:33	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/16/13 21:33	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/16/13 21:33	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/16/13 21:33	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/16/13 21:33	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/16/13 21:33	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/16/13 21:33	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/16/13 21:33	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/16/13 21:33	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/16/13 21:33	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/16/13 21:33	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/16/13 21:33	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/16/13 21:33	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/16/13 21:33	127-18-4	
Toluene	ND	ug/L	1.0	1		08/16/13 21:33	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/16/13 21:33	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/16/13 21:33	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/16/13 21:33	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/16/13 21:33	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/16/13 21:33	1330-20-7	
Surrogates								
Dibromofluoromethane (S)	104	%	80-120	1		08/16/13 21:33	1868-53-7	
4-Bromofluorobenzene (S)	99	%	80-120	1		08/16/13 21:33	460-00-4	
Toluene-d8 (S)	100	%	80-120	1		08/16/13 21:33	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		08/16/13 21:33	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/16/13 21:33		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: MERP/7614
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151162001

METHOD BLANK: 1238476 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:26	

LABORATORY CONTROL SAMPLE: 1238477

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	90	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1238478 1238479

Parameter	Units	60151227001 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	4.2	4.1	83	82	70-130	1	20	

MATRIX SPIKE SAMPLE: 1238480

Parameter	Units	60151150001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	3.6	71	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: MERP/7624
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151162001

METHOD BLANK: 1239391 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/22/13 10:35	

LABORATORY CONTROL SAMPLE: 1239392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239393 1239394

Parameter	Units	60151017001 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	0.20	0.23	4	5	70-130	15	20	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: MPRP/23909
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151162001

METHOD BLANK: 1238839 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/22/13 17:34	
Antimony	ug/L	ND	10.0	08/22/13 17:34	
Arsenic	ug/L	ND	10.0	08/22/13 17:34	
Beryllium	ug/L	ND	1.0	08/22/13 17:34	
Cadmium	ug/L	ND	5.0	08/22/13 17:34	
Chromium	ug/L	ND	5.0	08/22/13 17:34	
Cobalt	ug/L	ND	5.0	08/22/13 17:34	
Copper	ug/L	ND	10.0	08/22/13 17:34	
Iron	ug/L	ND	50.0	08/22/13 17:34	
Lead	ug/L	ND	5.0	08/22/13 17:34	
Nickel	ug/L	ND	5.0	08/22/13 17:34	
Selenium	ug/L	ND	15.0	08/22/13 17:34	
Silver	ug/L	ND	7.0	08/22/13 17:34	
Thallium	ug/L	ND	20.0	08/22/13 17:34	
Zinc	ug/L	ND	50.0	08/22/13 17:34	

LABORATORY CONTROL SAMPLE: 1238840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9820	98	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	93	85-115	
Beryllium	ug/L	1000	984	98	85-115	
Cadmium	ug/L	1000	958	96	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	974	97	85-115	
Copper	ug/L	1000	952	95	85-115	
Iron	ug/L	10000	9590	96	85-115	
Lead	ug/L	1000	969	97	85-115	
Nickel	ug/L	1000	995	100	85-115	
Selenium	ug/L	1000	945	95	85-115	
Silver	ug/L	500	460	92	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	939	94	85-115	

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9530	95	70-130	
Antimony	ug/L	ND	1000	976	98	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	959	96	70-130	
Beryllium	ug/L	ND	1000	961	96	70-130	
Cadmium	ug/L	ND	1000	958	96	70-130	
Chromium	ug/L	ND	1000	926	93	70-130	
Cobalt	ug/L	ND	1000	937	94	70-130	
Copper	ug/L	ND	1000	965	96	70-130	
Iron	ug/L	ND	10000	9230	92	70-130	
Lead	ug/L	ND	1000	923	92	70-130	
Nickel	ug/L	7.4	1000	959	95	70-130	
Selenium	ug/L	ND	1000	951	95	70-130	
Silver	ug/L	ND	500	466	93	70-130	
Thallium	ug/L	ND	1000	884	88	70-130	
Zinc	ug/L	ND	1000	945	94	70-130	

MATRIX SPIKE SAMPLE: 1238842

Parameter	Units	60151268002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	87.6	10000	9870	98	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	995	99	70-130	
Beryllium	ug/L	ND	1000	944	94	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	ND	1000	922	92	70-130	
Cobalt	ug/L	ND	1000	928	93	70-130	
Copper	ug/L	ND	1000	970	97	70-130	
Iron	ug/L	ND	10000	9110	91	70-130	
Lead	ug/L	6.3	1000	920	91	70-130	
Nickel	ug/L	ND	1000	945	94	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	478	96	70-130	
Thallium	ug/L	ND	1000	866	87	70-130	
Zinc	ug/L	ND	1000	975	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: MPRP/23917
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151162001

METHOD BLANK: 1239259 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/22/13 12:13	
Antimony, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Arsenic, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Beryllium, Dissolved	ug/L	ND	1.0	08/22/13 12:13	
Cadmium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Chromium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Cobalt, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Copper, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Iron, Dissolved	ug/L	ND	50.0	08/22/13 12:13	
Lead, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Nickel, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Selenium, Dissolved	ug/L	ND	15.0	08/22/13 12:13	
Silver, Dissolved	ug/L	ND	7.0	08/22/13 12:13	
Thallium, Dissolved	ug/L	ND	20.0	08/22/13 12:13	
Zinc, Dissolved	ug/L	ND	50.0	08/22/13 12:13	

LABORATORY CONTROL SAMPLE: 1239260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9580	96	85-115	
Antimony, Dissolved	ug/L	1000	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	949	95	85-115	
Beryllium, Dissolved	ug/L	1000	970	97	85-115	
Cadmium, Dissolved	ug/L	1000	966	97	85-115	
Chromium, Dissolved	ug/L	1000	934	93	85-115	
Cobalt, Dissolved	ug/L	1000	978	98	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	9670	97	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	990	99	85-115	
Selenium, Dissolved	ug/L	1000	982	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	936	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 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	35.9J	10000	10000	9700	9680	97	96	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	981	975	98	97	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	985	985	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	989	983	99	98	70-130	1	10	
Chromium, Dissolved	ug/L	1.1J	1000	1000	939	936	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	971	966	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	989	100	99	70-130	1	11	
Iron, Dissolved	ug/L	16.1J	10000	10000	9600	9580	96	96	70-130	0	10	
Lead, Dissolved	ug/L	2.8J	1000	1000	974	972	97	97	70-130	0	10	
Nickel, Dissolved	ug/L	8.4	1000	1000	990	986	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	997	986	100	99	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	478	474	96	95	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	989	985	99	98	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	921	922	92	92	70-130	0	11	

MATRIX SPIKE SAMPLE: 1239263

Parameter	Units	60151047002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	26.4J	10000	9720	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	973	97	70-130	
Beryllium, Dissolved	ug/L	ND	1000	989	99	70-130	
Cadmium, Dissolved	ug/L	ND	1000	986	99	70-130	
Chromium, Dissolved	ug/L	1.6J	1000	952	95	70-130	
Cobalt, Dissolved	ug/L	ND	1000	969	97	70-130	
Copper, Dissolved	ug/L	ND	1000	991	99	70-130	
Iron, Dissolved	ug/L	28.2J	10000	9670	96	70-130	
Lead, Dissolved	ug/L	ND	1000	974	97	70-130	
Nickel, Dissolved	ug/L	ND	1000	983	98	70-130	
Selenium, Dissolved	ug/L	ND	1000	985	98	70-130	
Silver, Dissolved	ug/L	ND	500	479	96	70-130	
Thallium, Dissolved	ug/L	ND	1000	986	99	70-130	
Zinc, Dissolved	ug/L	ND	1000	929	93	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: MSV/55612 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151162001, 60151162002

METHOD BLANK: 1237402 Matrix: Water
Associated Lab Samples: 60151162001, 60151162002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/16/13 19:47	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/16/13 19:47	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/16/13 19:47	
1,2-Dichloroethane	ug/L	ND	1.0	08/16/13 19:47	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/16/13 19:47	
Benzene	ug/L	ND	1.0	08/16/13 19:47	
Bromodichloromethane	ug/L	ND	1.0	08/16/13 19:47	
Bromoform	ug/L	ND	1.0	08/16/13 19:47	
Bromomethane	ug/L	ND	5.0	08/16/13 19:47	
Carbon tetrachloride	ug/L	ND	1.0	08/16/13 19:47	
Chloroethane	ug/L	ND	1.0	08/16/13 19:47	
Chloroform	ug/L	ND	1.0	08/16/13 19:47	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/16/13 19:47	
Ethylbenzene	ug/L	ND	1.0	08/16/13 19:47	
Methylene chloride	ug/L	ND	1.0	08/16/13 19:47	
Tetrachloroethene	ug/L	ND	1.0	08/16/13 19:47	
Toluene	ug/L	ND	1.0	08/16/13 19:47	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/16/13 19:47	
Trichloroethene	ug/L	ND	1.0	08/16/13 19:47	
Vinyl chloride	ug/L	ND	1.0	08/16/13 19:47	
Xylene (Total)	ug/L	ND	3.0	08/16/13 19:47	
1,2-Dichloroethane-d4 (S)	%	94	80-120	08/16/13 19:47	
4-Bromofluorobenzene (S)	%	98	80-120	08/16/13 19:47	
Toluene-d8 (S)	%	101	80-120	08/16/13 19:47	

LABORATORY CONTROL SAMPLE: 1237403

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	16.7	83	59-138	
1,1,2-Trichloroethane	ug/L	20	17.2	86	69-127	
1,2-Dichloroethane	ug/L	20	18.1	90	71-129	
1,4-Dichlorobenzene	ug/L	20	17.0	85	68-124	
Benzene	ug/L	20	18.2	91	73-129	
Bromodichloromethane	ug/L	20	18.0	90	63-129	
Bromoform	ug/L	20	16.1	81	52-123	
Bromomethane	ug/L	20	14.3	72	10-160	
Carbon tetrachloride	ug/L	20	19.7	99	70-140	
Chloroethane	ug/L	20	16.1	81	42-160	
Chloroform	ug/L	20	18.3	91	60-120	
cis-1,2-Dichloroethene	ug/L	20	19.1	96	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

LABORATORY CONTROL SAMPLE: 1237403

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.3	91	66-133	
Methylene chloride	ug/L	20	19.1	95	56-135	
Tetrachloroethene	ug/L	20	19.3	96	64-143	
Toluene	ug/L	20	18.6	93	70-130	
trans-1,2-Dichloroethene	ug/L	20	17.8	89	67-149	
Trichloroethene	ug/L	20	18.3	92	71-130	
Vinyl chloride	ug/L	20	18.2	91	41-160	
Xylene (Total)	ug/L	60	55.5	93	67-130	
1,2-Dichloroethane-d4 (S)	%			99	80-120	
4-Bromofluorobenzene (S)	%			96	80-120	
Toluene-d8 (S)	%			102	80-120	

MATRIX SPIKE SAMPLE: 1237404

Parameter	Units	60151162001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4010	100	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3460	87	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3520	88	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3730	93	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3490	87	18-147	
Benzene	ug/L	ND	4000	3660	92	37-151	
Bromodichloromethane	ug/L	ND	4000	3700	92	35-155	
Bromoform	ug/L	ND	4000	3180	77	45-133	
Bromomethane	ug/L	ND	4000	3070	77	10-160	
Carbon tetrachloride	ug/L	ND	4000	3930	98	70-140	
Chloroethane	ug/L	ND	4000	3280	82	14-160	
Chloroform	ug/L	ND	4000	3740	92	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3880	97	19-160	
Ethylbenzene	ug/L	ND	4000	3760	94	37-154	
Methylene chloride	ug/L	ND	4000	3810	94	15-156	
Tetrachloroethene	ug/L	ND	4000	3840	96	64-148	
Toluene	ug/L	ND	4000	3650	91	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3670	92	54-156	
Trichloroethene	ug/L	ND	4000	3580	89	71-157	
Vinyl chloride	ug/L	ND	4000	3730	93	10-160	
Xylene (Total)	ug/L	ND	12000	11400	95	12-153	
1,2-Dichloroethane-d4 (S)	%				105	80-120	
4-Bromofluorobenzene (S)	%				98	80-120	HS
Toluene-d8 (S)	%				101	80-120	
Preservation pH		6.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: OEXT/39966 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151162001

METHOD BLANK: 1239147 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/22/13 12:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/22/13 12:38	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/22/13 12:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/22/13 12:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/22/13 12:38	
Hexachloroethane	ug/L	ND	5.0	08/22/13 12:38	
Naphthalene	ug/L	ND	5.0	08/22/13 12:38	
Nitrobenzene	ug/L	ND	5.0	08/22/13 12:38	
Pentachlorophenol	ug/L	ND	5.0	08/22/13 12:38	
Phenol	ug/L	ND	5.0	08/22/13 12:38	
2,4,6-Tribromophenol (S)	%	73	39-119	08/22/13 12:38	
2-Fluorobiphenyl (S)	%	75	36-120	08/22/13 12:38	
2-Fluorophenol (S)	%	46	18-120	08/22/13 12:38	
Nitrobenzene-d5 (S)	%	72	32-120	08/22/13 12:38	
Phenol-d6 (S)	%	38	12-120	08/22/13 12:38	
Terphenyl-d14 (S)	%	82	44-120	08/22/13 12:38	

LABORATORY CONTROL SAMPLE: 1239148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.3	69	44-120	
2,4,6-Trichlorophenol	ug/L	50	37.1	74	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	40.3	81	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.7	67	41-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	31-120	
Hexachloroethane	ug/L	50	33.4	67	40-113	
Naphthalene	ug/L	50	36.1	72	48-120	
Nitrobenzene	ug/L	50	37.4	75	47-120	
Pentachlorophenol	ug/L	50	38.5	77	43-127	
Phenol	ug/L	50	19.8	40	15-112	
2,4,6-Tribromophenol (S)	%			76	39-119	
2-Fluorobiphenyl (S)	%			74	36-120	
2-Fluorophenol (S)	%			43	18-120	
Nitrobenzene-d5 (S)	%			71	32-120	
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			78	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

MATRIX SPIKE SAMPLE: 1239149

Parameter	Units	60151167001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	34.5	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.6	87	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	42.4	85	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	34.2	68	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	65.7	66	11-120	
Hexachloroethane	ug/L	ND	50	32.2	64	40-113	
Naphthalene	ug/L	ND	50	36.7	73	32-120	
Nitrobenzene	ug/L	ND	50	41.3	83	35-128	
Pentachlorophenol	ug/L	ND	50	35.8	72	38-133	
Phenol	ug/L	ND	50	20.0	40	13-112	
2,4,6-Tribromophenol (S)	%				84	39-119	
2-Fluorobiphenyl (S)	%				73	36-120	
2-Fluorophenol (S)	%				38	18-120	
Nitrobenzene-d5 (S)	%				67	32-120	
Phenol-d6 (S)	%				38	12-120	
Terphenyl-d14 (S)	%				86	44-120	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: WET/42947 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151162001

METHOD BLANK: 1238262 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/19/13 14:49	

LABORATORY CONTROL SAMPLE: 1238263

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.2	105	78-114	

MATRIX SPIKE SAMPLE: 1238264

Parameter	Units	60151032002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40	38.2	92	78-114	

SAMPLE DUPLICATE: 1238265

Parameter	Units	60151036001 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 316-043
Pace Project No.: 60151162

QC Batch: WET/43002 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151162001

METHOD BLANK: 1240048 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/22/13 11:37	

LABORATORY CONTROL SAMPLE: 1240049

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: 1240059

Parameter	Units	60151389002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.3	20	27.9	48	64-132	M1

SAMPLE DUPLICATE: 1240060

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: WET/42925
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151162001

METHOD BLANK: 1237673 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/16/13 14:43	

SAMPLE DUPLICATE: 1237674

Parameter	Units	60151041001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	273	301	10	25	

SAMPLE DUPLICATE: 1237743

Parameter	Units	60151162001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	1460	1400	4	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: WET/42951
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151162001

SAMPLE DUPLICATE: 1238378

Parameter	Units	60151111003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: WETA/25860 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151162001

METHOD BLANK: 1238623 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/20/13 14:26	

LABORATORY CONTROL SAMPLE: 1238624

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

MATRIX SPIKE SAMPLE: 1238625

Parameter	Units	60151132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

MATRIX SPIKE SAMPLE: 1238627

Parameter	Units	60151131001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.15	2	2.2	105	90-110	

SAMPLE DUPLICATE: 1238626

Parameter	Units	60151158002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

QC Batch: WETA/25868 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151162001

METHOD BLANK: 1238985 Matrix: Water
Associated Lab Samples: 60151162001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/21/13 13:53	

LABORATORY CONTROL SAMPLE: 1238986

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: 1238987

Parameter	Units	60150731024 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	21.0	50	72.7	103	90-110	

MATRIX SPIKE SAMPLE: 1238989

Parameter	Units	60150731026 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	15.6	50	63.0	95	90-110	

SAMPLE DUPLICATE: 1238988

Parameter	Units	60150731025 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	5.9J		25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-043
Pace Project No.: 60151162

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151162001	**316-043**	EPA 200.7	MPRP/23909	EPA 200.7	ICP/18714
60151162001	**316-043**	EPA 200.7	MPRP/23917	EPA 200.7	ICP/18724
60151162001	**316-043**	EPA 245.1	MERP/7614	EPA 245.1	MERC/7570
60151162001	**316-043**	EPA 245.1	MERP/7624	EPA 245.1	MERC/7581
60151162001	**316-043**	EPA 625	OEXT/39966	EPA 625	MSSV/12676
60151162001	**316-043**	EPA 624 Low	MSV/55612		
60151162002	**TRIP BLANK**	EPA 624 Low	MSV/55612		
60151162001	**316-043**	EPA 1664A	WET/42947		
60151162001	**316-043**	EPA 1664A	WET/43002		
60151162001	**316-043**	SM 2540D	WET/42925		
60151162001	**316-043**	SM 4500-H+B	WET/42951		
60151162001	**316-043**	EPA 350.1	WETA/25860		
60151162001	**316-043**	EPA 410.4	WETA/25868		

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Sample Condition Upon Receipt

WO#: 60151162

60151162

Client Name: Barr Engin.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Roads

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

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

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

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

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/16/13

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. ph
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A	7.
Sufficient volume:	☑Yes	☐No	☐N/A	8.
Correct containers used:	☑Yes	☐No	☐N/A	
Pace containers used:	☑Yes	☐No	☐N/A	9.
Containers intact:	☑Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A	12.
Sample labels match COC:	☑Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: OT				13.
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A	Both BP3N & BP3S initial ph 4-5, added 2.5mL preserv. to both, final ph 3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No		Initial when completed [initials] Lot # of added preservative 12510-1-3
Trip Blank present:	☑Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3				15.
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A	5 of 5 OK FOOTNOTE HISTORICALLY 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: 8/16/13

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

Regulatory Agency:

State / Location: Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	
1	3116-0413 3AG1H, 3AG1H, BP2N	OT	G	8/15/13	1240	BP3N	BP3S 35		13	500	1	1	3	BP3N 35				X	X	X	X	X	X	X	X	X	5	DG9H		60151162
2	TRIP BLANK								2	2																X	2	DG9H CTB		
3																														
4																														
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

Requested Analysis Filtered (Y/N)

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299		8-15-13	1640		8/15/13	1640
SITE ADDRESS: BRIDGETON LF				EBrockett / Pace	8/16	0105
13570 ST. CHARLES ROCK RD						
BRIDGETON MO 63044						

SAMPLE CONDITIONS			
3.3	Y	Y	Y

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell II

SIGNATURE of SAMPLER: [signature]

DATE Signed: 08-15-13

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

August 22, 2013

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

RE: Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-043
Pace Project No.: 60151163

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 316-043
Pace Project No.: 60151163

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151163001	**316-043**	Water	08/15/13 12:40	08/16/13 01:05

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151163001	**316-043**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

Sample: 316-043 **Lab ID: 60151163001** Collected: 08/15/13 12:40 Received: 08/16/13 01:05 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30500**	mg/L	2.0	1	08/16/13 15:54	08/21/13 14:08		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

QC Batch: WET/42922
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151163001

METHOD BLANK: 1237520 Matrix: Water
Associated Lab Samples: 60151163001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/21/13 13:25	

LABORATORY CONTROL SAMPLE: 1237521

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	173	87	85-115	

SAMPLE DUPLICATE: 1237522

Parameter	Units	60151045001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	2830	3390	18	17	D6

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QUALIFIERS

Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-043
Pace Project No.: 60151163

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151163001	**316-043**	SM 5210B	WET/42922	SM 5210B	WET/42994

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO#: 60151163

60151163

Client Name: Barr Engin.

Optional
Proj Due Date:
Proj Name:

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-Reads

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 ☑ Zpc

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

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/16/13 JD

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/16/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	
Missouri	

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60151163
1	316-043	OT	G	8/15/13	12:40				1	1									X		BP2U cc1
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Hawks	8-15-13	1610	GH 554	8/13/13	1640				
SITE ADDRESS: BRIDGETON LF				EBrockett / Pace	8/16	0105	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	John Powell	
SIGNATURE of SAMPLER:		DATE Signed: 08-15-13

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

August 26, 2013

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

RE: Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-044
Pace Project No.: 60151248

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 316-044
Pace Project No.: 60151248

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151248001	**316-044**	Water	08/16/13 09:45	08/17/13 00:55

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151248001	**316-044**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

Sample: 316-044 **Lab ID: 60151248001** Collected: 08/16/13 09:45 Received: 08/17/13 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**31900**	mg/L	2.0	1	08/17/13 10:18	08/22/13 16:58		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

QC Batch: WET/42932 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151248001

METHOD BLANK: 1237977 Matrix: Water
Associated Lab Samples: 60151248001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/22/13 16:34	

LABORATORY CONTROL SAMPLE: 1237978

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	180	91	85-115	

SAMPLE DUPLICATE: 1237979

Parameter	Units	60151135008 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	102	106	4	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-044
Pace Project No.: 60151248

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151248001	**316-044**	SM 5210B	WET/42932	SM 5210B	WET/43057

REPORT OF LABORATORY ANALYSIS

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60151248

60151248

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JNS 8/17/13 735

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
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 MH / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☑N/A	
Pace Trip Blank lot # (if purchased): NA		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/19/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-044	OT	G	8/16/13	0945				1	1									X		(BP2U) 001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heikes	8-16-13	1630	[illegible] 554	8/16/13	1630				
SITE ADDRESS: BRIDGETON LF				[illegible] Par	8/17/13	0055	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 08-16-13

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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Lenexa, KS 66219
(913)599-5665

August 26, 2013

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

RE: Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 17, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

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 316-044
Pace Project No.: 60151250

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151250001	**316-044**	Water	08/16/13 09:45	08/17/13 00:55
60151250002	**TRIP BLANK**	Water	08/16/13 08:00	08/17/13 00:55

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151250001	**316-044**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151250002	**TRIP BLANK**	EPA 624 Low	JKL	25

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Sample: 316-044 **Lab ID: 60151250001** Collected: 08/16/13 09:45 Received: 08/17/13 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4860**	ug/L	150	2	08/20/13 14:00	08/22/13 18:59	7429-90-5	
Antimony	**48.9**	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:59	7440-36-0	
Arsenic	**793**	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:59	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/20/13 14:00	08/22/13 19:32	7440-41-7	D3
Cadmium	**14.3**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:59	7440-43-9	
Chromium	**239**	ug/L	25.0	5	08/20/13 14:00	08/22/13 19:32	7440-47-3	
Cobalt	**48.0**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:59	7440-48-4	
Copper	ND	ug/L	20.0	2	08/20/13 14:00	08/22/13 18:59	7440-50-8	D3
Iron	**685000**	ug/L	100	2	08/20/13 14:00	08/22/13 18:59	7439-89-6	
Lead	**151**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:59	7439-92-1	
Nickel	**127**	ug/L	10.0	2	08/20/13 14:00	08/22/13 18:59	7440-02-0	
Selenium	**80.6**	ug/L	75.0	5	08/20/13 14:00	08/22/13 19:32	7782-49-2	
Silver	ND	ug/L	14.0	2	08/20/13 14:00	08/22/13 18:59	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/20/13 14:00	08/22/13 19:32	7440-28-0	D3
Zinc	**11900**	ug/L	1000	20	08/20/13 14:00	08/22/13 19:46	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3350**	ug/L	150	2	08/21/13 10:00	08/22/13 13:07	7429-90-5	
Antimony, Dissolved	**56.1**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:07	7440-36-0	D9
Arsenic, Dissolved	**819**	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:07	7440-38-2	D9
Beryllium, Dissolved	ND	ug/L	5.0	5	08/21/13 10:00	08/22/13 13:37	7440-41-7	D3
Cadmium, Dissolved	**12.8**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:07	7440-43-9	
Chromium, Dissolved	**217**	ug/L	25.0	5	08/21/13 10:00	08/22/13 13:37	7440-47-3	
Cobalt, Dissolved	**45.8**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:07	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/21/13 10:00	08/22/13 13:07	7440-50-8	D3
Iron, Dissolved	**584000**	ug/L	100	2	08/21/13 10:00	08/22/13 13:07	7439-89-6	
Lead, Dissolved	**109**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:07	7439-92-1	
Nickel, Dissolved	**124**	ug/L	10.0	2	08/21/13 10:00	08/22/13 13:07	7440-02-0	
Selenium, Dissolved	**107**	ug/L	75.0	5	08/21/13 10:00	08/22/13 13:37	7782-49-2	D9
Silver, Dissolved	ND	ug/L	14.0	2	08/21/13 10:00	08/22/13 13:07	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/21/13 10:00	08/22/13 13:37	7440-28-0	D3
Zinc, Dissolved	**11000**	ug/L	1000	20	08/21/13 10:00	08/22/13 13:47	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.49**	ug/L	0.20	1	08/21/13 12:15	08/22/13 09:42	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	08/21/13 16:40	08/22/13 12:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/21/13 00:00	08/22/13 14:01	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Sample: 316-044 **Lab ID: 60151250001** Collected: 08/16/13 09:45 Received: 08/17/13 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	87-86-5	
Phenol	**14500**	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/21/13 00:00	08/22/13 14:01	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/21/13 00:00	08/22/13 14:01	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/21/13 00:00	08/22/13 14:01	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/21/13 00:00	08/22/13 14:01	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/21/13 00:00	08/22/13 14:01	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/21/13 00:00	08/22/13 14:01	367-12-4	S4
2,4,6-Tribromophenol (S)	80	%	39-119	20	08/21/13 00:00	08/22/13 14:01	118-79-6	
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/21/13 18:15	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/21/13 18:15	75-27-4	
Bromoform	ND	ug/L	200	200		08/21/13 18:15	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/21/13 18:15	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/21/13 18:15	56-23-5	
Chloroethane	ND	ug/L	200	200		08/21/13 18:15	75-00-3	
Chloroform	ND	ug/L	200	200		08/21/13 18:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/21/13 18:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/21/13 18:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 18:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 18:15	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/21/13 18:15	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/21/13 18:15	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/21/13 18:15	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/21/13 18:15	127-18-4	
Toluene	ND	ug/L	200	200		08/21/13 18:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/21/13 18:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/21/13 18:15	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/21/13 18:15	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/21/13 18:15	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/21/13 18:15	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		08/21/13 18:15	460-00-4	D3
Toluene-d8 (S)	99	%	80-120	200		08/21/13 18:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	105	%	80-120	200		08/21/13 18:15	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/21/13 18:15		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**558**	mg/L	5.0	1		08/20/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/22/13 11:38		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Sample: 316-044 **Lab ID: 60151250001** Collected: 08/16/13 09:45 Received: 08/17/13 00:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3100**	mg/L	5.0	1		08/20/13 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/17/13 12:01		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**722**	mg/L	20.0	200		08/20/13 14:31	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**68700**	mg/L	5000	500		08/23/13 12:51		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Sample: TRIP BLANK **Lab ID: 60151250002** Collected: 08/16/13 08:00 Received: 08/17/13 00:55 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		08/21/13 18:58	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/21/13 18:58	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/21/13 18:58	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/13 18:58	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/21/13 18:58	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/21/13 18:58	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/21/13 18:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/21/13 18:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/21/13 18:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 18:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 18:58	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/21/13 18:58	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/21/13 18:58	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/21/13 18:58	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/21/13 18:58	127-18-4	
Toluene	ND	ug/L	1.0	1		08/21/13 18:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/21/13 18:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/21/13 18:58	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/21/13 18:58	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/21/13 18:58	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/21/13 18:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	1		08/21/13 18:58	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/21/13 18:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		08/21/13 18:58	17060-07-0	
Preservation pH	**5.0**		1.0	1		08/21/13 18:58		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: MERP/7625
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151250001

METHOD BLANK: 1239396 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:37	

LABORATORY CONTROL SAMPLE: 1239397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239398 1239399

Parameter	Units	60151360001 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	4.3	90	87	70-130	4	20	

MATRIX SPIKE SAMPLE: 1239400

Parameter	Units	60151362001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	85	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: MERP/7624
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151250001

METHOD BLANK: 1239391 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/22/13 10:35	

LABORATORY CONTROL SAMPLE: 1239392

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	4.3	87	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239393 1239394

Parameter	Units	60151017001 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	0.20	0.23	4	5	70-130	15	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: MPRP/23909
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151250001

METHOD BLANK: 1238839 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/22/13 17:34	
Antimony	ug/L	ND	10.0	08/22/13 17:34	
Arsenic	ug/L	ND	10.0	08/22/13 17:34	
Beryllium	ug/L	ND	1.0	08/22/13 17:34	
Cadmium	ug/L	ND	5.0	08/22/13 17:34	
Chromium	ug/L	ND	5.0	08/22/13 17:34	
Cobalt	ug/L	ND	5.0	08/22/13 17:34	
Copper	ug/L	ND	10.0	08/22/13 17:34	
Iron	ug/L	ND	50.0	08/22/13 17:34	
Lead	ug/L	ND	5.0	08/22/13 17:34	
Nickel	ug/L	ND	5.0	08/22/13 17:34	
Selenium	ug/L	ND	15.0	08/22/13 17:34	
Silver	ug/L	ND	7.0	08/22/13 17:34	
Thallium	ug/L	ND	20.0	08/22/13 17:34	
Zinc	ug/L	ND	50.0	08/22/13 17:34	

LABORATORY CONTROL SAMPLE: 1238840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9820	98	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	93	85-115	
Beryllium	ug/L	1000	984	98	85-115	
Cadmium	ug/L	1000	958	96	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	974	97	85-115	
Copper	ug/L	1000	952	95	85-115	
Iron	ug/L	10000	9590	96	85-115	
Lead	ug/L	1000	969	97	85-115	
Nickel	ug/L	1000	995	100	85-115	
Selenium	ug/L	1000	945	95	85-115	
Silver	ug/L	500	460	92	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	939	94	85-115	

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9530	95	70-130	
Antimony	ug/L	ND	1000	976	98	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	959	96	70-130	
Beryllium	ug/L	ND	1000	961	96	70-130	
Cadmium	ug/L	ND	1000	958	96	70-130	
Chromium	ug/L	ND	1000	926	93	70-130	
Cobalt	ug/L	ND	1000	937	94	70-130	
Copper	ug/L	ND	1000	965	96	70-130	
Iron	ug/L	ND	10000	9230	92	70-130	
Lead	ug/L	ND	1000	923	92	70-130	
Nickel	ug/L	7.4	1000	959	95	70-130	
Selenium	ug/L	ND	1000	951	95	70-130	
Silver	ug/L	ND	500	466	93	70-130	
Thallium	ug/L	ND	1000	884	88	70-130	
Zinc	ug/L	ND	1000	945	94	70-130	

MATRIX SPIKE SAMPLE: 1238842

Parameter	Units	60151268002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	87.6	10000	9870	98	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	995	99	70-130	
Beryllium	ug/L	ND	1000	944	94	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	ND	1000	922	92	70-130	
Cobalt	ug/L	ND	1000	928	93	70-130	
Copper	ug/L	ND	1000	970	97	70-130	
Iron	ug/L	ND	10000	9110	91	70-130	
Lead	ug/L	6.3	1000	920	91	70-130	
Nickel	ug/L	ND	1000	945	94	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	478	96	70-130	
Thallium	ug/L	ND	1000	866	87	70-130	
Zinc	ug/L	ND	1000	975	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: MPRP/23917
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151250001

METHOD BLANK: 1239259 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/22/13 12:13	
Antimony, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Arsenic, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Beryllium, Dissolved	ug/L	ND	1.0	08/22/13 12:13	
Cadmium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Chromium, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Cobalt, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Copper, Dissolved	ug/L	ND	10.0	08/22/13 12:13	
Iron, Dissolved	ug/L	ND	50.0	08/22/13 12:13	
Lead, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Nickel, Dissolved	ug/L	ND	5.0	08/22/13 12:13	
Selenium, Dissolved	ug/L	ND	15.0	08/22/13 12:13	
Silver, Dissolved	ug/L	ND	7.0	08/22/13 12:13	
Thallium, Dissolved	ug/L	ND	20.0	08/22/13 12:13	
Zinc, Dissolved	ug/L	ND	50.0	08/22/13 12:13	

LABORATORY CONTROL SAMPLE: 1239260

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9580	96	85-115	
Antimony, Dissolved	ug/L	1000	999	100	85-115	
Arsenic, Dissolved	ug/L	1000	949	95	85-115	
Beryllium, Dissolved	ug/L	1000	970	97	85-115	
Cadmium, Dissolved	ug/L	1000	966	97	85-115	
Chromium, Dissolved	ug/L	1000	934	93	85-115	
Cobalt, Dissolved	ug/L	1000	978	98	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	9670	97	85-115	
Lead, Dissolved	ug/L	1000	978	98	85-115	
Nickel, Dissolved	ug/L	1000	990	99	85-115	
Selenium, Dissolved	ug/L	1000	982	98	85-115	
Silver, Dissolved	ug/L	500	467	93	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	936	94	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 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	35.9J	10000	10000	9700	9680	97	96	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239261 1239262

Parameter	Units	60151047001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1030	1020	103	102	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	981	975	98	97	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	985	985	98	98	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	989	983	99	98	70-130	1	10	
Chromium, Dissolved	ug/L	1.1J	1000	1000	939	936	94	94	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	971	966	97	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	1000	989	100	99	70-130	1	11	
Iron, Dissolved	ug/L	16.1J	10000	10000	9600	9580	96	96	70-130	0	10	
Lead, Dissolved	ug/L	2.8J	1000	1000	974	972	97	97	70-130	0	10	
Nickel, Dissolved	ug/L	8.4	1000	1000	990	986	98	98	70-130	0	10	
Selenium, Dissolved	ug/L	ND	1000	1000	997	986	100	99	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	478	474	96	95	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	989	985	99	98	70-130	0	6	
Zinc, Dissolved	ug/L	ND	1000	1000	921	922	92	92	70-130	0	11	

MATRIX SPIKE SAMPLE: 1239263

Parameter	Units	60151047002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	26.4J	10000	9720	97	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	973	97	70-130	
Beryllium, Dissolved	ug/L	ND	1000	989	99	70-130	
Cadmium, Dissolved	ug/L	ND	1000	986	99	70-130	
Chromium, Dissolved	ug/L	1.6J	1000	952	95	70-130	
Cobalt, Dissolved	ug/L	ND	1000	969	97	70-130	
Copper, Dissolved	ug/L	ND	1000	991	99	70-130	
Iron, Dissolved	ug/L	28.2J	10000	9670	96	70-130	
Lead, Dissolved	ug/L	ND	1000	974	97	70-130	
Nickel, Dissolved	ug/L	ND	1000	983	98	70-130	
Selenium, Dissolved	ug/L	ND	1000	985	98	70-130	
Silver, Dissolved	ug/L	ND	500	479	96	70-130	
Thallium, Dissolved	ug/L	ND	1000	986	99	70-130	
Zinc, Dissolved	ug/L	ND	1000	929	93	70-130	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: MSV/55691 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151250001, 60151250002

METHOD BLANK: 1239406 Matrix: Water
Associated Lab Samples: 60151250001, 60151250002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/13 17:11	
Benzene	ug/L	ND	1.0	08/21/13 17:11	
Bromodichloromethane	ug/L	ND	1.0	08/21/13 17:11	
Bromoform	ug/L	ND	1.0	08/21/13 17:11	
Bromomethane	ug/L	ND	5.0	08/21/13 17:11	
Carbon tetrachloride	ug/L	ND	1.0	08/21/13 17:11	
Chloroethane	ug/L	ND	1.0	08/21/13 17:11	
Chloroform	ug/L	ND	1.0	08/21/13 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Ethylbenzene	ug/L	ND	1.0	08/21/13 17:11	
Methylene chloride	ug/L	ND	1.0	08/21/13 17:11	
Tetrachloroethene	ug/L	ND	1.0	08/21/13 17:11	
Toluene	ug/L	ND	1.0	08/21/13 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Trichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Vinyl chloride	ug/L	ND	1.0	08/21/13 17:11	
Xylene (Total)	ug/L	ND	3.0	08/21/13 17:11	
1,2-Dichloroethane-d4 (S)	%	105	80-120	08/21/13 17:11	
4-Bromofluorobenzene (S)	%	103	80-120	08/21/13 17:11	
Toluene-d8 (S)	%	99	80-120	08/21/13 17:11	

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	59-138	
1,1,2-Trichloroethane	ug/L	20	16.4	82	69-127	
1,2-Dichloroethane	ug/L	20	19.0	95	71-129	
1,4-Dichlorobenzene	ug/L	20	17.8	89	68-124	
Benzene	ug/L	20	18.6	93	73-129	
Bromodichloromethane	ug/L	20	17.8	89	63-129	
Bromoform	ug/L	20	18.4	92	52-123	
Bromomethane	ug/L	20	15.1	75	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	17.8	89	42-160	
Chloroform	ug/L	20	17.9	89	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	17.2	86	64-143	
Toluene	ug/L	20	17.5	87	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	17.6	88	41-160	
Xylene (Total)	ug/L	60	52.8	88	67-130	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1239408

Parameter	Units	60151250001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4470	112	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3470	87	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3980	99	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3990	98	18-147	
Benzene	ug/L	ND	4000	3870	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3780	95	45-133	
Bromomethane	ug/L	ND	4000	2650	66	10-160	
Carbon tetrachloride	ug/L	ND	4000	4240	106	70-140	
Chloroethane	ug/L	ND	4000	3660	91	14-160	
Chloroform	ug/L	ND	4000	3900	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3900	98	19-160	
Ethylbenzene	ug/L	ND	4000	4170	104	37-154	
Methylene chloride	ug/L	ND	4000	3960	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4170	103	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-156	
Trichloroethene	ug/L	ND	4000	3680	92	71-157	
Vinyl chloride	ug/L	ND	4000	3580	90	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: OEXT/39966 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151250001

METHOD BLANK: 1239147 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/22/13 12:38	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/22/13 12:38	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/22/13 12:38	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/22/13 12:38	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/22/13 12:38	
Hexachloroethane	ug/L	ND	5.0	08/22/13 12:38	
Naphthalene	ug/L	ND	5.0	08/22/13 12:38	
Nitrobenzene	ug/L	ND	5.0	08/22/13 12:38	
Pentachlorophenol	ug/L	ND	5.0	08/22/13 12:38	
Phenol	ug/L	ND	5.0	08/22/13 12:38	
2,4,6-Tribromophenol (S)	%	73	39-119	08/22/13 12:38	
2-Fluorobiphenyl (S)	%	75	36-120	08/22/13 12:38	
2-Fluorophenol (S)	%	46	18-120	08/22/13 12:38	
Nitrobenzene-d5 (S)	%	72	32-120	08/22/13 12:38	
Phenol-d6 (S)	%	38	12-120	08/22/13 12:38	
Terphenyl-d14 (S)	%	82	44-120	08/22/13 12:38	

LABORATORY CONTROL SAMPLE: 1239148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	34.3	69	44-120	
2,4,6-Trichlorophenol	ug/L	50	37.1	74	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	40.3	81	31-147	
Hexachloro-1,3-butadiene	ug/L	50	33.7	67	41-116	
Hexachlorocyclopentadiene	ug/L	100	53.9	54	31-120	
Hexachloroethane	ug/L	50	33.4	67	40-113	
Naphthalene	ug/L	50	36.1	72	48-120	
Nitrobenzene	ug/L	50	37.4	75	47-120	
Pentachlorophenol	ug/L	50	38.5	77	43-127	
Phenol	ug/L	50	19.8	40	15-112	
2,4,6-Tribromophenol (S)	%			76	39-119	
2-Fluorobiphenyl (S)	%			74	36-120	
2-Fluorophenol (S)	%			43	18-120	
Nitrobenzene-d5 (S)	%			71	32-120	
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			78	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

MATRIX SPIKE SAMPLE: 1239149

Parameter	Units	60151167001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	34.5	69	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	43.6	87	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	42.4	85	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	34.2	68	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	65.7	66	11-120	
Hexachloroethane	ug/L	ND	50	32.2	64	40-113	
Naphthalene	ug/L	ND	50	36.7	73	32-120	
Nitrobenzene	ug/L	ND	50	41.3	83	35-128	
Pentachlorophenol	ug/L	ND	50	35.8	72	38-133	
Phenol	ug/L	ND	50	20.0	40	13-112	
2,4,6-Tribromophenol (S)	%				84	39-119	
2-Fluorobiphenyl (S)	%				73	36-120	
2-Fluorophenol (S)	%				38	18-120	
Nitrobenzene-d5 (S)	%				67	32-120	
Phenol-d6 (S)	%				38	12-120	
Terphenyl-d14 (S)	%				86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: WET/42958
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151250001

METHOD BLANK: 1238545 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/20/13 07:01	

LABORATORY CONTROL SAMPLE: 1238546

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: 1238547

Parameter	Units	60151301001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	46.3	95	78-114	

SAMPLE DUPLICATE: 1238548

Parameter	Units	60150921001 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 316-044
Pace Project No.: 60151250

QC Batch: WET/43002 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151250001

METHOD BLANK: 1240048 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/22/13 11:37	

LABORATORY CONTROL SAMPLE: 1240049

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: 1240059

Parameter	Units	60151389002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.3	20	27.9	48	64-132	M1

SAMPLE DUPLICATE: 1240060

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: WET/42959 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151250001

METHOD BLANK: 1238590 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/20/13 08:22	

SAMPLE DUPLICATE: 1238591

Parameter	Units	60151300001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1238592

Parameter	Units	60151247001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	5.0		25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: WET/42951
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151250001

SAMPLE DUPLICATE: 1238378

Parameter	Units	60151111003 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.3	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: WETA/25860 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151250001

METHOD BLANK: 1238623 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/20/13 14:26	

LABORATORY CONTROL SAMPLE: 1238624

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

MATRIX SPIKE SAMPLE: 1238625

Parameter	Units	60151132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

MATRIX SPIKE SAMPLE: 1238627

Parameter	Units	60151131001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.15	2	2.2	105	90-110	

SAMPLE DUPLICATE: 1238626

Parameter	Units	60151158002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

QC Batch: WETA/25906
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60151250001

METHOD BLANK: 1240709 Matrix: Water
Associated Lab Samples: 60151250001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/23/13 12:48	

LABORATORY CONTROL SAMPLE: 1240710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.9	102	90-110	

MATRIX SPIKE SAMPLE: 1240711

Parameter	Units	60151111003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	165	100	258	93	90-110	

SAMPLE DUPLICATE: 1240712

Parameter	Units	60151250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	68700	62300	10	25	

SAMPLE DUPLICATE: 1240713

Parameter	Units	60151295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	57500	53100	8	25	

SAMPLE DUPLICATE: 1240714

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54700	54000	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-044
Pace Project No.: 60151250

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151250001	**316-044**	EPA 200.7	MPRP/23909	EPA 200.7	ICP/18714
60151250001	**316-044**	EPA 200.7	MPRP/23917	EPA 200.7	ICP/18724
60151250001	**316-044**	EPA 245.1	MERP/7625	EPA 245.1	MERC/7580
60151250001	**316-044**	EPA 245.1	MERP/7624	EPA 245.1	MERC/7581
60151250001	**316-044**	EPA 625	OEXT/39966	EPA 625	MSSV/12676
60151250001	**316-044**	EPA 624 Low	MSV/55691		
60151250002	**TRIP BLANK**	EPA 624 Low	MSV/55691		
60151250001	**316-044**	EPA 1664A	WET/42958		
60151250001	**316-044**	EPA 1664A	WET/43002		
60151250001	**316-044**	SM 2540D	WET/42959		
60151250001	**316-044**	SM 4500-H+B	WET/42951		
60151250001	**316-044**	EPA 350.1	WETA/25860		
60151250001	**316-044**	EPA 410.4	WETA/25906		

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Sample Condition Upon Receipt

WO#: 60151250

60151250

Optional
Proj Due Date:
Proj Name:

Client Name: Barr Eng.

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

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

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

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

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

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JMS 8/19/13 730

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☒No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☒Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	BP3N/BP3S not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed MA / Lot # of added preservative 12510 - 1-3
Trip Blank present: Pace Trip Blank lot # (if purchased): 071513-3	☒Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☒N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/19/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	6015 1250 5(DG9M) 3(AZ1M) 2(AZ1H) 1(BP2N) 1(BP3N) 1(BP3N)^1.5 1(BP3S)^1.5 001
1	316-044	OT	G	8/16/13	0945				13	9	1	1	2						X	X	X	X	X	X	X	X	X	X			METALS LIST total & LF Dis:
2	TRIP BLANK								2	2																X			2(DG9M)		Al,Sb,As,Be,Cd,Cr, 002
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heikes	8-16-13	1630	[signature]	8/16/13	1630				
SITE ADDRESS: BRIDGETON LF				[signature]	8/17/13	0055	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-16-13

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

September 13, 2013

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

RE: Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

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

Amended report revised 09/06/13 for re-preparation of Biochemical Oxygen Demand analysis.

Amended report revised 09/13/13 to correct for quality control sample association for BOD analyses.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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(913)599-5665

CERTIFICATIONS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

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 316-045
Pace Project No.: 60151293

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151293001	**316-045**	Water	08/17/13 16:28	08/19/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151293001	**316-045**	SM 5210B	DJR, JMC1	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

Sample: 316-045 **Lab ID: 60151293001** Collected: 08/17/13 16:28 Received: 08/19/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**61600**	mg/L	2.0	1	08/19/13 15:24	08/24/13 09:29		D6
BOD, 5 day	**31700**	mg/L	2.0	1	08/29/13 16:33	09/03/13 09:20		H1,H2

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

QC Batch: WET/42955
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151293001

METHOD BLANK: 1238467 Matrix: Water
Associated Lab Samples: 60151293001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/24/13 09:20	

LABORATORY CONTROL SAMPLE: 1238468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	88	85-115	

SAMPLE DUPLICATE: 1238469

Parameter	Units	60151293001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	61600	79400	25	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

QC Batch: WET/43137
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151293001

METHOD BLANK: 1244720 Matrix: Water
Associated Lab Samples: 60151293001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/03/13 09:13	

LABORATORY CONTROL SAMPLE: 1244721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	88	85-115	

SAMPLE DUPLICATE: 1244722

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25600	28500	10	17	H1

SAMPLE DUPLICATE: 1244724

Parameter	Units	60152007001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27500	26100	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H1	Analysis conducted outside the EPA method holding time.
H2	Extraction or preparation conducted outside EPA method holding time.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-045
Pace Project No.: 60151293

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151293001	**316-045**	SM 5210B	WET/42955	SM 5210B	WET/43046
60151293001	**316-045**	SM 5210B	WET/43137	SM 5210B	WET/43196

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60151293

60151293

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.3

Date and initials of person examining contents: 8/19

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/3

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N): Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	6015129 3
1	316-045	OT	G	8/17/13	1628	—	—		1	1									X		BP2U CU1
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Feezor Eng.	08-9-13	0950	Bill Stone 412	8-9-13	10:00				
SITE ADDRESS: BRIDGETON LF				PASI	8/19/13	1345	5.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	WILLIAM ABERNATHY		
SIGNATURE of SAMPLER:		DATE Signed:	8/18/13

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

August 26, 2013

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

RE: Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-046
Pace Project No.: 60151294

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 316-046
Pace Project No.: 60151294

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151294001	**316-046**	Water	08/18/13 11:05	08/19/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151294001	**316-046**	SM 5210B	JMC1	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

Sample: 316-046 **Lab ID: 60151294001** Collected: 08/18/13 11:05 Received: 08/19/13 13:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**35200**	mg/L	2.0	1	08/19/13 15:27	08/24/13 09:40		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

QC Batch: WET/42955
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151294001

METHOD BLANK: 1238467 Matrix: Water
Associated Lab Samples: 60151294001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/24/13 09:20	

LABORATORY CONTROL SAMPLE: 1238468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	88	85-115	

SAMPLE DUPLICATE: 1238469

Parameter	Units	60151293001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	61600	79400	25	17	D6

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D6 The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-046
Pace Project No.: 60151294

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151294001	**316-046**	SM 5210B	WET/42955	SM 5210B	WET/43046

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO# : 60151294

60151294

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/19

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. 8081
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☐Yes ☐No ☑N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☑No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☑No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60151294
1	316-046	OT	G	8/18/13	1105				1	1									X		BP2U a01
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	J. Powell/Barr Eng	08-19-13	0950	Bill Stone 412	8-19-13	10:00				
SITE ADDRESS: BRIDGETON LF				PAS1	8/19/13	1345	5.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	J. Powell					
SIGNATURE of SAMPLER:		DATE Signed: 08-18-13				

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

August 27, 2013

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

RE: Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

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 316-045
Pace Project No.: 60151295

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151295001	**316-045**	Water	08/17/13 16:28	08/19/13 13:45
60151295002	**TRIP BLANK**	Water	08/17/13 16:28	08/19/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151295001	**316-045**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151295002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Sample: 316-045 **Lab ID: 60151295001** Collected: 08/17/13 16:28 Received: 08/19/13 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	**5380**	ug/L	150	2	08/20/13 14:00	08/22/13 19:02	7429-90-5	
Antimony	**42.0**	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:02	7440-36-0	
Arsenic	**708**	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:02	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/20/13 14:00	08/22/13 19:36	7440-41-7	D3
Cadmium	**14.3**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:02	7440-43-9	
Chromium	**239**	ug/L	25.0	5	08/20/13 14:00	08/22/13 19:36	7440-47-3	
Cobalt	**47.7**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:02	7440-48-4	
Copper	ND	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:02	7440-50-8	D3
Iron	**708000**	ug/L	100	2	08/20/13 14:00	08/22/13 19:02	7439-89-6	
Lead	**171**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:02	7439-92-1	
Nickel	**124**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:02	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/20/13 14:00	08/22/13 19:36	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/20/13 14:00	08/22/13 19:02	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/20/13 14:00	08/22/13 19:36	7440-28-0	D3
Zinc	**12600**	ug/L	1000	20	08/20/13 14:00	08/22/13 19:49	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3460**	ug/L	150	2	08/24/13 10:25	08/26/13 15:53	7429-90-5	
Antimony, Dissolved	**48.6**	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:53	7440-36-0	D9
Arsenic, Dissolved	**632**	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:53	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	08/24/13 10:25	08/26/13 16:07	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:53	7440-43-9	D3
Chromium, Dissolved	**218**	ug/L	25.0	5	08/24/13 10:25	08/26/13 16:00	7440-47-3	
Cobalt, Dissolved	**44.4**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:53	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:53	7440-50-8	D3
Iron, Dissolved	**585000**	ug/L	100	2	08/24/13 10:25	08/26/13 15:53	7439-89-6	
Lead, Dissolved	**68.7**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:53	7439-92-1	
Nickel, Dissolved	**118**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:53	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 16:00	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 15:53	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 16:00	7440-28-0	D3
Zinc, Dissolved	**12100**	ug/L	1000	20	08/24/13 10:25	08/26/13 16:07	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**7.1**	ug/L	0.20	1	08/21/13 12:15	08/22/13 09:53	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	08/24/13 15:00	08/26/13 12:04	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/22/13 00:00	08/23/13 14:09	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Sample: 316-045 **Lab ID: 60151295001** Collected: 08/17/13 16:28 Received: 08/19/13 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	20	08/22/13 00:00	08/23/13 14:09	87-86-5	
Phenol	**15600**	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:09	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/22/13 00:00	08/23/13 14:09	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/22/13 00:00	08/23/13 14:09	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/22/13 00:00	08/23/13 14:09	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/22/13 00:00	08/23/13 14:09	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/22/13 00:00	08/23/13 14:09	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/22/13 00:00	08/23/13 14:09	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/21/13 19:19	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/21/13 19:19	75-27-4	
Bromoform	ND	ug/L	200	200		08/21/13 19:19	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/21/13 19:19	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/21/13 19:19	56-23-5	
Chloroethane	ND	ug/L	200	200		08/21/13 19:19	75-00-3	
Chloroform	ND	ug/L	200	200		08/21/13 19:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/21/13 19:19	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/21/13 19:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 19:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 19:19	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/21/13 19:19	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/21/13 19:19	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/21/13 19:19	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/21/13 19:19	127-18-4	
Toluene	ND	ug/L	200	200		08/21/13 19:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/21/13 19:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/21/13 19:19	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/21/13 19:19	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/21/13 19:19	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/21/13 19:19	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		08/21/13 19:19	460-00-4	D3
Toluene-d8 (S)	99	%	80-120	200		08/21/13 19:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	106	%	80-120	200		08/21/13 19:19	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/21/13 19:19		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**575**	mg/L	5.0	1		08/20/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/22/13 11:39		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Sample: 316-045 **Lab ID: 60151295001** Collected: 08/17/13 16:28 Received: 08/19/13 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	**2560**	mg/L	5.0	1		08/20/13 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		08/20/13 13:51		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**770**	mg/L	20.0	200		08/20/13 14:32	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**57500**	mg/L	5000	500		08/23/13 12:57		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Sample: TRIP BLANK **Lab ID: 60151295002** Collected: 08/17/13 16:28 Received: 08/19/13 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		08/21/13 19:41	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/21/13 19:41	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/21/13 19:41	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/13 19:41	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/21/13 19:41	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/21/13 19:41	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/21/13 19:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/21/13 19:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/21/13 19:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 19:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 19:41	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/21/13 19:41	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/21/13 19:41	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/21/13 19:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/21/13 19:41	127-18-4	
Toluene	ND	ug/L	1.0	1		08/21/13 19:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/21/13 19:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/21/13 19:41	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/21/13 19:41	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/21/13 19:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/21/13 19:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/21/13 19:41	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		08/21/13 19:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		08/21/13 19:41	17060-07-0	
Preservation pH	**5.0**		1.0	1		08/21/13 19:41		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: MERP/7625
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151295001

METHOD BLANK: 1239396 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:37	

LABORATORY CONTROL SAMPLE: 1239397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239398 1239399

Parameter	Units	60151360001 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	4.3	90	87	70-130	4	20	

MATRIX SPIKE SAMPLE: 1239400

Parameter	Units	60151362001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	85	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151295001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: MPRP/23909
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151295001

METHOD BLANK: 1238839 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/22/13 17:34	
Antimony	ug/L	ND	10.0	08/22/13 17:34	
Arsenic	ug/L	ND	10.0	08/22/13 17:34	
Beryllium	ug/L	ND	1.0	08/22/13 17:34	
Cadmium	ug/L	ND	5.0	08/22/13 17:34	
Chromium	ug/L	ND	5.0	08/22/13 17:34	
Cobalt	ug/L	ND	5.0	08/22/13 17:34	
Copper	ug/L	ND	10.0	08/22/13 17:34	
Iron	ug/L	ND	50.0	08/22/13 17:34	
Lead	ug/L	ND	5.0	08/22/13 17:34	
Nickel	ug/L	ND	5.0	08/22/13 17:34	
Selenium	ug/L	ND	15.0	08/22/13 17:34	
Silver	ug/L	ND	7.0	08/22/13 17:34	
Thallium	ug/L	ND	20.0	08/22/13 17:34	
Zinc	ug/L	ND	50.0	08/22/13 17:34	

LABORATORY CONTROL SAMPLE: 1238840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9820	98	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	93	85-115	
Beryllium	ug/L	1000	984	98	85-115	
Cadmium	ug/L	1000	958	96	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	974	97	85-115	
Copper	ug/L	1000	952	95	85-115	
Iron	ug/L	10000	9590	96	85-115	
Lead	ug/L	1000	969	97	85-115	
Nickel	ug/L	1000	995	100	85-115	
Selenium	ug/L	1000	945	95	85-115	
Silver	ug/L	500	460	92	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	939	94	85-115	

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9530	95	70-130	
Antimony	ug/L	ND	1000	976	98	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	959	96	70-130	
Beryllium	ug/L	ND	1000	961	96	70-130	
Cadmium	ug/L	ND	1000	958	96	70-130	
Chromium	ug/L	ND	1000	926	93	70-130	
Cobalt	ug/L	ND	1000	937	94	70-130	
Copper	ug/L	ND	1000	965	96	70-130	
Iron	ug/L	ND	10000	9230	92	70-130	
Lead	ug/L	ND	1000	923	92	70-130	
Nickel	ug/L	7.4	1000	959	95	70-130	
Selenium	ug/L	ND	1000	951	95	70-130	
Silver	ug/L	ND	500	466	93	70-130	
Thallium	ug/L	ND	1000	884	88	70-130	
Zinc	ug/L	ND	1000	945	94	70-130	

MATRIX SPIKE SAMPLE: 1238842

Parameter	Units	60151268002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	87.6	10000	9870	98	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	995	99	70-130	
Beryllium	ug/L	ND	1000	944	94	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	ND	1000	922	92	70-130	
Cobalt	ug/L	ND	1000	928	93	70-130	
Copper	ug/L	ND	1000	970	97	70-130	
Iron	ug/L	ND	10000	9110	91	70-130	
Lead	ug/L	6.3	1000	920	91	70-130	
Nickel	ug/L	ND	1000	945	94	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	478	96	70-130	
Thallium	ug/L	ND	1000	866	87	70-130	
Zinc	ug/L	ND	1000	975	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151295001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 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		10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L		1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L		1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L		1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L		1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L		1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L		1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L		1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L		10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L		1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L		1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L		1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L		500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L		1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L		1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: MSV/55691 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151295001, 60151295002

METHOD BLANK: 1239406 Matrix: Water
Associated Lab Samples: 60151295001, 60151295002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/13 17:11	
Benzene	ug/L	ND	1.0	08/21/13 17:11	
Bromodichloromethane	ug/L	ND	1.0	08/21/13 17:11	
Bromoform	ug/L	ND	1.0	08/21/13 17:11	
Bromomethane	ug/L	ND	5.0	08/21/13 17:11	
Carbon tetrachloride	ug/L	ND	1.0	08/21/13 17:11	
Chloroethane	ug/L	ND	1.0	08/21/13 17:11	
Chloroform	ug/L	ND	1.0	08/21/13 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Ethylbenzene	ug/L	ND	1.0	08/21/13 17:11	
Methylene chloride	ug/L	ND	1.0	08/21/13 17:11	
Tetrachloroethene	ug/L	ND	1.0	08/21/13 17:11	
Toluene	ug/L	ND	1.0	08/21/13 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Trichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Vinyl chloride	ug/L	ND	1.0	08/21/13 17:11	
Xylene (Total)	ug/L	ND	3.0	08/21/13 17:11	
1,2-Dichloroethane-d4 (S)	%	105	80-120	08/21/13 17:11	
4-Bromofluorobenzene (S)	%	103	80-120	08/21/13 17:11	
Toluene-d8 (S)	%	99	80-120	08/21/13 17:11	

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	59-138	
1,1,2-Trichloroethane	ug/L	20	16.4	82	69-127	
1,2-Dichloroethane	ug/L	20	19.0	95	71-129	
1,4-Dichlorobenzene	ug/L	20	17.8	89	68-124	
Benzene	ug/L	20	18.6	93	73-129	
Bromodichloromethane	ug/L	20	17.8	89	63-129	
Bromoform	ug/L	20	18.4	92	52-123	
Bromomethane	ug/L	20	15.1	75	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	17.8	89	42-160	
Chloroform	ug/L	20	17.9	89	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	17.2	86	64-143	
Toluene	ug/L	20	17.5	87	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	17.6	88	41-160	
Xylene (Total)	ug/L	60	52.8	88	67-130	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1239408

Parameter	Units	60151250001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4470	112	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3470	87	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3980	99	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3990	98	18-147	
Benzene	ug/L	ND	4000	3870	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3780	95	45-133	
Bromomethane	ug/L	ND	4000	2650	66	10-160	
Carbon tetrachloride	ug/L	ND	4000	4240	106	70-140	
Chloroethane	ug/L	ND	4000	3660	91	14-160	
Chloroform	ug/L	ND	4000	3900	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3900	98	19-160	
Ethylbenzene	ug/L	ND	4000	4170	104	37-154	
Methylene chloride	ug/L	ND	4000	3960	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4170	103	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-156	
Trichloroethene	ug/L	ND	4000	3680	92	71-157	
Vinyl chloride	ug/L	ND	4000	3580	90	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: OEXT/39993 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151295001

METHOD BLANK: 1239937 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/23/13 13:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/23/13 13:27	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/23/13 13:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/23/13 13:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/23/13 13:27	
Hexachloroethane	ug/L	ND	5.0	08/23/13 13:27	
Naphthalene	ug/L	ND	5.0	08/23/13 13:27	
Nitrobenzene	ug/L	ND	5.0	08/23/13 13:27	
Pentachlorophenol	ug/L	ND	5.0	08/23/13 13:27	
Phenol	ug/L	ND	5.0	08/23/13 13:27	
2,4,6-Tribromophenol (S)	%	77	39-119	08/23/13 13:27	
2-Fluorobiphenyl (S)	%	84	36-120	08/23/13 13:27	
2-Fluorophenol (S)	%	38	18-120	08/23/13 13:27	
Nitrobenzene-d5 (S)	%	80	32-120	08/23/13 13:27	
Phenol-d6 (S)	%	27	12-120	08/23/13 13:27	
Terphenyl-d14 (S)	%	92	44-120	08/23/13 13:27	

LABORATORY CONTROL SAMPLE: 1239938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.3	77	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.2	78	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	42.1	84	31-147	
Hexachloro-1,3-butadiene	ug/L	50	37.5	75	41-116	
Hexachlorocyclopentadiene	ug/L	100	58.2	58	31-120	
Hexachloroethane	ug/L	50	39.5	79	40-113	
Naphthalene	ug/L	50	39.7	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	47-120	
Pentachlorophenol	ug/L	50	40.2	80	43-127	
Phenol	ug/L	50	16.0	32	15-112	
2,4,6-Tribromophenol (S)	%			82	39-119	
2-Fluorobiphenyl (S)	%			80	36-120	
2-Fluorophenol (S)	%			37	18-120	
Nitrobenzene-d5 (S)	%			78	32-120	
Phenol-d6 (S)	%			27	12-120	
Terphenyl-d14 (S)	%			86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

MATRIX SPIKE SAMPLE: 1239939

Parameter	Units	60151362001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.8	76	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.9	84	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	45.2	90	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	37.5	75	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	71.7	72	11-120	
Hexachloroethane	ug/L	ND	50	38.7	77	40-113	
Naphthalene	ug/L	ND	50	40.3	81	32-120	
Nitrobenzene	ug/L	ND	50	43.6	87	35-128	
Pentachlorophenol	ug/L	ND	50	48.8	98	38-133	
Phenol	ug/L	ND	50	15.8	32	13-112	
2,4,6-Tribromophenol (S)	%				83	39-119	
2-Fluorobiphenyl (S)	%				80	36-120	
2-Fluorophenol (S)	%				34	18-120	
Nitrobenzene-d5 (S)	%				77	32-120	
Phenol-d6 (S)	%				27	12-120	
Terphenyl-d14 (S)	%				89	44-120	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: WET/42958
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151295001

METHOD BLANK: 1238545 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/20/13 07:01	

LABORATORY CONTROL SAMPLE: 1238546

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: 1238547

Parameter	Units	60151301001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	46.3	95	78-114	

SAMPLE DUPLICATE: 1238548

Parameter	Units	60150921001 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 316-045
Pace Project No.: 60151295

QC Batch: WET/43002 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151295001

METHOD BLANK: 1240048 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/22/13 11:37	

LABORATORY CONTROL SAMPLE: 1240049

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: 1240059

Parameter	Units	60151389002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.3	20	27.9	48	64-132	M1

SAMPLE DUPLICATE: 1240060

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: WET/42959 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151295001

METHOD BLANK: 1238590 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/20/13 08:22	

SAMPLE DUPLICATE: 1238591

Parameter	Units	60151300001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1238592

Parameter	Units	60151247001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	5.0		25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: WET/42971
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151295001

SAMPLE DUPLICATE: 1238946

Parameter	Units	60151295001 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 316-045
Pace Project No.: 60151295

QC Batch: WETA/25860 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151295001

METHOD BLANK: 1238623 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/20/13 14:26	

LABORATORY CONTROL SAMPLE: 1238624

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

MATRIX SPIKE SAMPLE: 1238625

Parameter	Units	60151132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

MATRIX SPIKE SAMPLE: 1238627

Parameter	Units	60151131001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.15	2	2.2	105	90-110	

SAMPLE DUPLICATE: 1238626

Parameter	Units	60151158002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

QC Batch: WETA/25906 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151295001

METHOD BLANK: 1240709 Matrix: Water
Associated Lab Samples: 60151295001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/23/13 12:48	

LABORATORY CONTROL SAMPLE: 1240710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.9	102	90-110	

MATRIX SPIKE SAMPLE: 1240711

Parameter	Units	60151111003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	165	100	258	93	90-110	

SAMPLE DUPLICATE: 1240712

Parameter	Units	60151250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	68700	62300	10	25	

SAMPLE DUPLICATE: 1240713

Parameter	Units	60151295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	57500	53100	8	25	

SAMPLE DUPLICATE: 1240714

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54700	54000	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

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

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-045
Pace Project No.: 60151295

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151295001	**316-045**	EPA 200.7	MPRP/23909	EPA 200.7	ICP/18714
60151295001	**316-045**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151295001	**316-045**	EPA 245.1	MERP/7625	EPA 245.1	MERC/7580
60151295001	**316-045**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151295001	**316-045**	EPA 625	OEXT/39993	EPA 625	MSSV/12686
60151295001	**316-045**	EPA 624 Low	MSV/55691		
60151295002	**TRIP BLANK**	EPA 624 Low	MSV/55691		
60151295001	**316-045**	EPA 1664A	WET/42958		
60151295001	**316-045**	EPA 1664A	WET/43002		
60151295001	**316-045**	SM 2540D	WET/42959		
60151295001	**316-045**	SM 4500-H+B	WET/42971		
60151295001	**316-045**	EPA 350.1	WETA/25860		
60151295001	**316-045**	EPA 410.4	WETA/25906		

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Sample Condition Upon Receipt

WO#: 60151295

60151295

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.3

Date and initials of person examining contents: 8/19

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	BP3N & BP3S initial pH @ ~6; added 2.5ml HNO3 2ml H2SO4 NO change
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☑No	Initial when completed 12510 | 12514 Lot # of added preservative
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Aug 12		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 2

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60151295 3(AG1H) 3(AG1U) BP2U BP3U BP3S6 BP3N6 5(DG4U)
1	316-045	OT	G	8/17/13	1628	—	—		~~13~~ 15	~~5~~ 10	1	1	23						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK	—	—	—	—	—	—		2	2																X		2(DG4U)				Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

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ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng.	08-19-13	0950	Bill Stein 412	8-19-13	10:00				
SITE ADDRESS: BRIDGETON LF				[signature] / PAS 1	8/19/13	1345	5.3	Y	[illegible] Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER: WILLIAM ABERNATHY					
SIGNATURE of SAMPLER: [signature]	DATE Signed: 8/18/13				

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August 27, 2013

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

RE: Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 19, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

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 316-046
Pace Project No.: 60151296

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151296001	**316-046**	Water	08/18/13 11:05	08/19/13 13:45
60151296002	**TRIP BLANK**	Water	08/18/13 11:05	08/19/13 13:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151296001	**316-046**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151296002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Sample: 316-046 **Lab ID: 60151296001** Collected: 08/18/13 11:05 Received: 08/19/13 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	**5080**	ug/L	150	2	08/20/13 14:00	08/22/13 19:06	7429-90-5	
Antimony	**50.8**	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:06	7440-36-0	
Arsenic	**749**	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:06	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/20/13 14:00	08/22/13 19:39	7440-41-7	D3
Cadmium	**12.7**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:06	7440-43-9	
Chromium	**242**	ug/L	25.0	5	08/20/13 14:00	08/22/13 19:39	7440-47-3	
Cobalt	**46.5**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:06	7440-48-4	
Copper	ND	ug/L	20.0	2	08/20/13 14:00	08/22/13 19:06	7440-50-8	D3
Iron	**654000**	ug/L	100	2	08/20/13 14:00	08/22/13 19:06	7439-89-6	
Lead	**150**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:06	7439-92-1	
Nickel	**121**	ug/L	10.0	2	08/20/13 14:00	08/22/13 19:06	7440-02-0	
Selenium	**89.6**	ug/L	75.0	5	08/20/13 14:00	08/22/13 19:39	7782-49-2	
Silver	ND	ug/L	14.0	2	08/20/13 14:00	08/22/13 19:06	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/20/13 14:00	08/22/13 19:39	7440-28-0	D3
Zinc	**14300**	ug/L	1000	20	08/20/13 14:00	08/22/13 19:52	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3860**	ug/L	150	2	08/24/13 10:25	08/26/13 15:57	7429-90-5	
Antimony, Dissolved	**51.7**	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:57	7440-36-0	D9
Arsenic, Dissolved	**688**	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:57	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	08/24/13 10:25	08/26/13 16:10	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:57	7440-43-9	D3
Chromium, Dissolved	**233**	ug/L	25.0	5	08/24/13 10:25	08/26/13 16:04	7440-47-3	
Cobalt, Dissolved	**46.9**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:57	7440-48-4	D9
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 15:57	7440-50-8	D3
Iron, Dissolved	**644000**	ug/L	100	2	08/24/13 10:25	08/26/13 15:57	7439-89-6	
Lead, Dissolved	**80.0**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:57	7439-92-1	
Nickel, Dissolved	**120**	ug/L	10.0	2	08/24/13 10:25	08/26/13 15:57	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 16:04	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 15:57	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 16:04	7440-28-0	D3
Zinc, Dissolved	**13700**	ug/L	1000	20	08/24/13 10:25	08/26/13 16:10	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.51**	ug/L	0.20	1	08/21/13 12:15	08/22/13 09:55	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	08/24/13 15:00	08/26/13 12:06	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/22/13 00:00	08/23/13 14:29	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Sample: 316-046 **Lab ID: 60151296001** Collected: 08/18/13 11:05 Received: 08/19/13 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	20	08/22/13 00:00	08/23/13 14:29	87-86-5	
Phenol	**15200**	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/22/13 00:00	08/23/13 14:29	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/22/13 00:00	08/23/13 14:29	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/22/13 00:00	08/23/13 14:29	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/22/13 00:00	08/23/13 14:29	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/22/13 00:00	08/23/13 14:29	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/22/13 00:00	08/23/13 14:29	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/22/13 00:00	08/23/13 14:29	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/21/13 20:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/21/13 20:02	75-27-4	
Bromoform	ND	ug/L	200	200		08/21/13 20:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/21/13 20:02	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/21/13 20:02	56-23-5	
Chloroethane	ND	ug/L	200	200		08/21/13 20:02	75-00-3	
Chloroform	ND	ug/L	200	200		08/21/13 20:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/21/13 20:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/21/13 20:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 20:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 20:02	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/21/13 20:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/21/13 20:02	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/21/13 20:02	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/21/13 20:02	127-18-4	
Toluene	ND	ug/L	200	200		08/21/13 20:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/21/13 20:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/21/13 20:02	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/21/13 20:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/21/13 20:02	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/21/13 20:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		08/21/13 20:02	460-00-4	D3
Toluene-d8 (S)	99	%	80-120	200		08/21/13 20:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	107	%	80-120	200		08/21/13 20:02	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/21/13 20:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**647**	mg/L	5.0	1		08/20/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	ND	mg/L	5.0	1		08/22/13 11:39		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Sample: 316-046 **Lab ID: 60151296001** Collected: 08/18/13 11:05 Received: 08/19/13 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	**3000**	mg/L	5.0	1		08/20/13 08:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.5**	Std. Units	0.10	1		08/20/13 13:51		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**752**	mg/L	20.0	200		08/20/13 14:33	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**54700**	mg/L	5000	500		08/23/13 12:58		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Sample: TRIP BLANK **Lab ID: 60151296002** Collected: 08/18/13 11:05 Received: 08/19/13 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		08/21/13 20:23	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/21/13 20:23	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/21/13 20:23	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/13 20:23	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/21/13 20:23	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/21/13 20:23	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/21/13 20:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/21/13 20:23	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/21/13 20:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 20:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 20:23	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/21/13 20:23	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/21/13 20:23	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/21/13 20:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/21/13 20:23	127-18-4	
Toluene	ND	ug/L	1.0	1		08/21/13 20:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/21/13 20:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/21/13 20:23	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/21/13 20:23	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/21/13 20:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/21/13 20:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		08/21/13 20:23	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/21/13 20:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	1		08/21/13 20:23	17060-07-0	
Preservation pH	**5.0**		1.0	1		08/21/13 20:23		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: MERP/7625
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151296001

METHOD BLANK: 1239396 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/22/13 09:37	

LABORATORY CONTROL SAMPLE: 1239397

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1239398 1239399

Parameter	Units	60151360001 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	4.3	90	87	70-130	4	20	

MATRIX SPIKE SAMPLE: 1239400

Parameter	Units	60151362001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	5	4.2	85	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151296001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: MPRP/23909
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151296001

METHOD BLANK: 1238839 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/22/13 17:34	
Antimony	ug/L	ND	10.0	08/22/13 17:34	
Arsenic	ug/L	ND	10.0	08/22/13 17:34	
Beryllium	ug/L	ND	1.0	08/22/13 17:34	
Cadmium	ug/L	ND	5.0	08/22/13 17:34	
Chromium	ug/L	ND	5.0	08/22/13 17:34	
Cobalt	ug/L	ND	5.0	08/22/13 17:34	
Copper	ug/L	ND	10.0	08/22/13 17:34	
Iron	ug/L	ND	50.0	08/22/13 17:34	
Lead	ug/L	ND	5.0	08/22/13 17:34	
Nickel	ug/L	ND	5.0	08/22/13 17:34	
Selenium	ug/L	ND	15.0	08/22/13 17:34	
Silver	ug/L	ND	7.0	08/22/13 17:34	
Thallium	ug/L	ND	20.0	08/22/13 17:34	
Zinc	ug/L	ND	50.0	08/22/13 17:34	

LABORATORY CONTROL SAMPLE: 1238840

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9820	98	85-115	
Antimony	ug/L	1000	974	97	85-115	
Arsenic	ug/L	1000	935	93	85-115	
Beryllium	ug/L	1000	984	98	85-115	
Cadmium	ug/L	1000	958	96	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	974	97	85-115	
Copper	ug/L	1000	952	95	85-115	
Iron	ug/L	10000	9590	96	85-115	
Lead	ug/L	1000	969	97	85-115	
Nickel	ug/L	1000	995	100	85-115	
Selenium	ug/L	1000	945	95	85-115	
Silver	ug/L	500	460	92	85-115	
Thallium	ug/L	1000	980	98	85-115	
Zinc	ug/L	1000	939	94	85-115	

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9530	95	70-130	
Antimony	ug/L	ND	1000	976	98	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

MATRIX SPIKE SAMPLE: 1238841

Parameter	Units	60151012001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	959	96	70-130	
Beryllium	ug/L	ND	1000	961	96	70-130	
Cadmium	ug/L	ND	1000	958	96	70-130	
Chromium	ug/L	ND	1000	926	93	70-130	
Cobalt	ug/L	ND	1000	937	94	70-130	
Copper	ug/L	ND	1000	965	96	70-130	
Iron	ug/L	ND	10000	9230	92	70-130	
Lead	ug/L	ND	1000	923	92	70-130	
Nickel	ug/L	7.4	1000	959	95	70-130	
Selenium	ug/L	ND	1000	951	95	70-130	
Silver	ug/L	ND	500	466	93	70-130	
Thallium	ug/L	ND	1000	884	88	70-130	
Zinc	ug/L	ND	1000	945	94	70-130	

MATRIX SPIKE SAMPLE: 1238842

Parameter	Units	60151268002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	87.6	10000	9870	98	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	995	99	70-130	
Beryllium	ug/L	ND	1000	944	94	70-130	
Cadmium	ug/L	ND	1000	993	99	70-130	
Chromium	ug/L	ND	1000	922	92	70-130	
Cobalt	ug/L	ND	1000	928	93	70-130	
Copper	ug/L	ND	1000	970	97	70-130	
Iron	ug/L	ND	10000	9110	91	70-130	
Lead	ug/L	6.3	1000	920	91	70-130	
Nickel	ug/L	ND	1000	945	94	70-130	
Selenium	ug/L	ND	1000	992	99	70-130	
Silver	ug/L	ND	500	478	96	70-130	
Thallium	ug/L	ND	1000	866	87	70-130	
Zinc	ug/L	ND	1000	975	97	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151296001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 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		10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L		1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L		1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L		1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L		1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L		1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L		1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L		1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L		10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L		1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L		1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L		1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L		500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L		1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L		1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: MSV/55691 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151296001, 60151296002

METHOD BLANK: 1239406 Matrix: Water
Associated Lab Samples: 60151296001, 60151296002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/13 17:11	
Benzene	ug/L	ND	1.0	08/21/13 17:11	
Bromodichloromethane	ug/L	ND	1.0	08/21/13 17:11	
Bromoform	ug/L	ND	1.0	08/21/13 17:11	
Bromomethane	ug/L	ND	5.0	08/21/13 17:11	
Carbon tetrachloride	ug/L	ND	1.0	08/21/13 17:11	
Chloroethane	ug/L	ND	1.0	08/21/13 17:11	
Chloroform	ug/L	ND	1.0	08/21/13 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Ethylbenzene	ug/L	ND	1.0	08/21/13 17:11	
Methylene chloride	ug/L	ND	1.0	08/21/13 17:11	
Tetrachloroethene	ug/L	ND	1.0	08/21/13 17:11	
Toluene	ug/L	ND	1.0	08/21/13 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Trichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Vinyl chloride	ug/L	ND	1.0	08/21/13 17:11	
Xylene (Total)	ug/L	ND	3.0	08/21/13 17:11	
1,2-Dichloroethane-d4 (S)	%	105	80-120	08/21/13 17:11	
4-Bromofluorobenzene (S)	%	103	80-120	08/21/13 17:11	
Toluene-d8 (S)	%	99	80-120	08/21/13 17:11	

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	59-138	
1,1,2-Trichloroethane	ug/L	20	16.4	82	69-127	
1,2-Dichloroethane	ug/L	20	19.0	95	71-129	
1,4-Dichlorobenzene	ug/L	20	17.8	89	68-124	
Benzene	ug/L	20	18.6	93	73-129	
Bromodichloromethane	ug/L	20	17.8	89	63-129	
Bromoform	ug/L	20	18.4	92	52-123	
Bromomethane	ug/L	20	15.1	75	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	17.8	89	42-160	
Chloroform	ug/L	20	17.9	89	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	17.2	86	64-143	
Toluene	ug/L	20	17.5	87	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	17.6	88	41-160	
Xylene (Total)	ug/L	60	52.8	88	67-130	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1239408

Parameter	Units	60151250001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4470	112	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3470	87	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3980	99	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3990	98	18-147	
Benzene	ug/L	ND	4000	3870	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3780	95	45-133	
Bromomethane	ug/L	ND	4000	2650	66	10-160	
Carbon tetrachloride	ug/L	ND	4000	4240	106	70-140	
Chloroethane	ug/L	ND	4000	3660	91	14-160	
Chloroform	ug/L	ND	4000	3900	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3900	98	19-160	
Ethylbenzene	ug/L	ND	4000	4170	104	37-154	
Methylene chloride	ug/L	ND	4000	3960	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4170	103	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-156	
Trichloroethene	ug/L	ND	4000	3680	92	71-157	
Vinyl chloride	ug/L	ND	4000	3580	90	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: OEXT/39993
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60151296001

METHOD BLANK: 1239937
Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/23/13 13:27	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/23/13 13:27	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/23/13 13:27	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/23/13 13:27	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/23/13 13:27	
Hexachloroethane	ug/L	ND	5.0	08/23/13 13:27	
Naphthalene	ug/L	ND	5.0	08/23/13 13:27	
Nitrobenzene	ug/L	ND	5.0	08/23/13 13:27	
Pentachlorophenol	ug/L	ND	5.0	08/23/13 13:27	
Phenol	ug/L	ND	5.0	08/23/13 13:27	
2,4,6-Tribromophenol (S)	%	77	39-119	08/23/13 13:27	
2-Fluorobiphenyl (S)	%	84	36-120	08/23/13 13:27	
2-Fluorophenol (S)	%	38	18-120	08/23/13 13:27	
Nitrobenzene-d5 (S)	%	80	32-120	08/23/13 13:27	
Phenol-d6 (S)	%	27	12-120	08/23/13 13:27	
Terphenyl-d14 (S)	%	92	44-120	08/23/13 13:27	

LABORATORY CONTROL SAMPLE: 1239938

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	38.3	77	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.2	78	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	42.1	84	31-147	
Hexachloro-1,3-butadiene	ug/L	50	37.5	75	41-116	
Hexachlorocyclopentadiene	ug/L	100	58.2	58	31-120	
Hexachloroethane	ug/L	50	39.5	79	40-113	
Naphthalene	ug/L	50	39.7	79	48-120	
Nitrobenzene	ug/L	50	41.0	82	47-120	
Pentachlorophenol	ug/L	50	40.2	80	43-127	
Phenol	ug/L	50	16.0	32	15-112	
2,4,6-Tribromophenol (S)	%			82	39-119	
2-Fluorobiphenyl (S)	%			80	36-120	
2-Fluorophenol (S)	%			37	18-120	
Nitrobenzene-d5 (S)	%			78	32-120	
Phenol-d6 (S)	%			27	12-120	
Terphenyl-d14 (S)	%			86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

MATRIX SPIKE SAMPLE: 1239939

Parameter	Units	60151362001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	37.8	76	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	41.9	84	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	45.2	90	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	37.5	75	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	71.7	72	11-120	
Hexachloroethane	ug/L	ND	50	38.7	77	40-113	
Naphthalene	ug/L	ND	50	40.3	81	32-120	
Nitrobenzene	ug/L	ND	50	43.6	87	35-128	
Pentachlorophenol	ug/L	ND	50	48.8	98	38-133	
Phenol	ug/L	ND	50	15.8	32	13-112	
2,4,6-Tribromophenol (S)	%				83	39-119	
2-Fluorobiphenyl (S)	%				80	36-120	
2-Fluorophenol (S)	%				34	18-120	
Nitrobenzene-d5 (S)	%				77	32-120	
Phenol-d6 (S)	%				27	12-120	
Terphenyl-d14 (S)	%				89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: WET/42958
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151296001

METHOD BLANK: 1238545 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/20/13 07:01	

LABORATORY CONTROL SAMPLE: 1238546

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: 1238547

Parameter	Units	60151301001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	46.5	46.3	95	78-114	

SAMPLE DUPLICATE: 1238548

Parameter	Units	60150921001 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 316-046
Pace Project No.: 60151296

QC Batch: WET/43002 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151296001

METHOD BLANK: 1240048 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/22/13 11:37	

LABORATORY CONTROL SAMPLE: 1240049

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: 1240059

Parameter	Units	60151389002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	18.3	20	27.9	48	64-132	M1

SAMPLE DUPLICATE: 1240060

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	3.4J		34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: WET/42959 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151296001

METHOD BLANK: 1238590 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/20/13 08:22	

SAMPLE DUPLICATE: 1238591

Parameter	Units	60151300001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1238592

Parameter	Units	60151247001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	5.0		25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: WET/42971
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151296001

SAMPLE DUPLICATE: 1238946

Parameter	Units	60151295001 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 316-046
Pace Project No.: 60151296

QC Batch: WETA/25860
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151296001

METHOD BLANK: 1238623 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/20/13 14:26	

LABORATORY CONTROL SAMPLE: 1238624

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

MATRIX SPIKE SAMPLE: 1238625

Parameter	Units	60151132001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.8	92	90-110	

MATRIX SPIKE SAMPLE: 1238627

Parameter	Units	60151131001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	0.15	2	2.2	105	90-110	

SAMPLE DUPLICATE: 1238626

Parameter	Units	60151158002 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	ND	ND		18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

QC Batch: WETA/25906
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60151296001

METHOD BLANK: 1240709 Matrix: Water
Associated Lab Samples: 60151296001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/23/13 12:48	

LABORATORY CONTROL SAMPLE: 1240710

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	50.9	102	90-110	

MATRIX SPIKE SAMPLE: 1240711

Parameter	Units	60151111003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	165	100	258	93	90-110	

SAMPLE DUPLICATE: 1240712

Parameter	Units	60151250001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	68700	62300	10	25	

SAMPLE DUPLICATE: 1240713

Parameter	Units	60151295001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	57500	53100	8	25	

SAMPLE DUPLICATE: 1240714

Parameter	Units	60151296001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54700	54000	1	25	

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QUALIFIERS

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

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

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-046
Pace Project No.: 60151296

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151296001	**316-046**	EPA 200.7	MPRP/23909	EPA 200.7	ICP/18714
60151296001	**316-046**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151296001	**316-046**	EPA 245.1	MERP/7625	EPA 245.1	MERC/7580
60151296001	**316-046**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151296001	**316-046**	EPA 625	OEXT/39993	EPA 625	MSSV/12686
60151296001	**316-046**	EPA 624 Low	MSV/55691		
60151296002	**TRIP BLANK**	EPA 624 Low	MSV/55691		
60151296001	**316-046**	EPA 1664A	WET/42958		
60151296001	**316-046**	EPA 1664A	WET/43002		
60151296001	**316-046**	SM 2540D	WET/42959		
60151296001	**316-046**	SM 4500-H+B	WET/42971		
60151296001	**316-046**	EPA 350.1	WETA/25860		
60151296001	**316-046**	EPA 410.4	WETA/25906		

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Sample Condition Upon Receipt

WO#: 60151296

60151296

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 5.1

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/19

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N & BP3S initial pH ~6.0; Added 2.5mL HNO_3 2 mL H_2SO_4 no change
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: Lot # of added preservative: 12510 / 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Orig 12		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☑N/A	16. 5 of 5 sample vials
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test (Y/N)	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60151296 3(AE-1H) 3(AG-1U) BP2U BP3U BP3S6 BP3N6 5(DX-9U)
1	316-046	OT	G	8/18/13	1105				13	9	1	1	2						X	X	X	X	X	X	X	X	X	X			METALS LIST total & LF Dis.
2	TRIP BLANK								2	2																X				2(3	6910) Al,Sb,As,Be,Cd,Cr,
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Fiezor Eng.	08-19-13	0950	Bill Storie 412	8-19-13	10:00				
SITE ADDRESS: BRIDGETON LF				[signature] / PASI	8/19/13	1345	5.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-18-13

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

August 27, 2013

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

RE: Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-047
Pace Project No.: 60151386

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 316-047
Pace Project No.: 60151386

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151386001	**316-047**	Water	08/19/13 13:30	08/21/13 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151386001	**316-047**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

Sample: 316-047 **Lab ID: 60151386001** Collected: 08/19/13 13:30 Received: 08/21/13 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**37100**	mg/L	2.0	1	08/21/13 09:36	08/26/13 09:42		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

QC Batch: WET/42980
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151386001

METHOD BLANK: 1239176 Matrix: Water
Associated Lab Samples: 60151386001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/26/13 08:43	

LABORATORY CONTROL SAMPLE: 1239177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	178	90	85-115	

SAMPLE DUPLICATE: 1239178

Parameter	Units	60151307001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.5	5.4	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-047
Pace Project No.: 60151386

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151386001	**316-047**	SM 5210B	WET/42980	SM 5210B	WET/43056

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Sample Condition Upon Receipt

WO#: 60151386

60151386

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

Thermometer Used: T-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: JW 8/21/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60151386
1	316-047	OT	G	8/19/13	1330				1	1									X		IRP2G 001
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	Julie Croak	8-20-13	1620	SSA 554	8/20/13	1620	
SITE ADDRESS BRIDGETON LF				PASL	8/21/13	0140	1.1 Y Y Y
13570 ST CHARLES ROCK RD							
BRIDGETON MO 63044							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 8-19-13

TEMP in C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

August 28, 2013

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

RE: Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-047
Pace Project No.: 60151388

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 316-047
Pace Project No.: 60151388

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151388001	**316-047**	Water	08/19/13 13:30	08/21/13 01:40
60151388002	**TRIP BLANK**	Water	08/19/13 13:30	08/21/13 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151388001	**316-047**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151388002	**TRIP BLANK**	EPA 624 Low	JKL	25

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Sample: 316-047 **Lab ID: 60151388001** Collected: 08/19/13 13:30 Received: 08/21/13 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	**7080**	ug/L	375	5	08/22/13 16:00	08/23/13 17:59	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/22/13 16:00	08/23/13 17:59	7440-36-0	D3
Arsenic	**814**	ug/L	50.0	5	08/22/13 16:00	08/23/13 17:59	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/22/13 16:00	08/23/13 17:59	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/22/13 16:00	08/23/13 17:59	7440-43-9	D3
Chromium	**261**	ug/L	25.0	5	08/22/13 16:00	08/23/13 17:59	7440-47-3	
Cobalt	**52.8**	ug/L	25.0	5	08/22/13 16:00	08/23/13 17:59	7440-48-4	
Copper	ND	ug/L	50.0	5	08/22/13 16:00	08/23/13 17:59	7440-50-8	D3
Iron	**752000**	ug/L	250	5	08/22/13 16:00	08/23/13 17:59	7439-89-6	
Lead	**1310**	ug/L	25.0	5	08/22/13 16:00	08/26/13 12:01	7439-92-1	
Nickel	**145**	ug/L	25.0	5	08/22/13 16:00	08/23/13 17:59	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/22/13 16:00	08/23/13 17:59	7782-49-2	D3
Silver	ND	ug/L	35.0	5	08/22/13 16:00	08/23/13 17:59	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/22/13 16:00	08/23/13 17:59	7440-28-0	D3
Zinc	**12300**	ug/L	1000	20	08/22/13 16:00	08/23/13 18:06	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2930**	ug/L	150	2	08/24/13 10:25	08/26/13 19:05	7429-90-5	
Antimony, Dissolved	**56.5**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:05	7440-36-0	D9
Arsenic, Dissolved	**784**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:05	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	08/24/13 10:25	08/26/13 19:49	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:05	7440-43-9	D3
Chromium, Dissolved	**214**	ug/L	25.0	5	08/24/13 10:25	08/26/13 19:20	7440-47-3	
Cobalt, Dissolved	**47.5**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:05	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:05	7440-50-8	D3
Iron, Dissolved	**483000**	ug/L	100	2	08/24/13 10:25	08/26/13 19:05	7439-89-6	
Lead, Dissolved	**56.6**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:05	7439-92-1	
Nickel, Dissolved	**124**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:05	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 19:20	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 19:05	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 19:20	7440-28-0	D3
Zinc, Dissolved	**10000**	ug/L	1000	20	08/24/13 10:25	08/26/13 19:49	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.9**	ug/L	0.20	1	08/22/13 17:05	08/23/13 10:02	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	08/24/13 15:00	08/26/13 12:15	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/23/13 00:00	08/26/13 15:04	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Sample: 316-047 **Lab ID: 60151388001** Collected: 08/19/13 13:30 Received: 08/21/13 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	20	08/23/13 00:00	08/26/13 15:04	87-86-5	
Phenol	**17800**	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:04	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/23/13 00:00	08/26/13 15:04	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/23/13 00:00	08/26/13 15:04	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/23/13 00:00	08/26/13 15:04	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/23/13 00:00	08/26/13 15:04	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/23/13 00:00	08/26/13 15:04	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/23/13 00:00	08/26/13 15:04	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/21/13 20:45	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/21/13 20:45	75-27-4	
Bromoform	ND	ug/L	200	200		08/21/13 20:45	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/21/13 20:45	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/21/13 20:45	56-23-5	
Chloroethane	ND	ug/L	200	200		08/21/13 20:45	75-00-3	
Chloroform	ND	ug/L	200	200		08/21/13 20:45	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/21/13 20:45	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/21/13 20:45	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 20:45	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 20:45	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/21/13 20:45	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/21/13 20:45	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/21/13 20:45	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/21/13 20:45	127-18-4	
Toluene	ND	ug/L	200	200		08/21/13 20:45	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/21/13 20:45	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/21/13 20:45	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/21/13 20:45	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/21/13 20:45	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/21/13 20:45	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	103	%	80-120	200		08/21/13 20:45	460-00-4	D3,HS
Toluene-d8 (S)	100	%	80-120	200		08/21/13 20:45	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		08/21/13 20:45	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/21/13 20:45		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**414**	mg/L	5.0	1		08/23/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.2**	mg/L	5.0	1		08/27/13 14:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Sample: 316-047 **Lab ID: 60151388001** Collected: 08/19/13 13:30 Received: 08/21/13 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	**1860**	mg/L	5.0	1		08/22/13 10:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/22/13 07:55		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**755**	mg/L	20.0	200		08/21/13 13:00	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**52600**	mg/L	5000	500		08/26/13 17:08		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Sample: TRIP BLANK **Lab ID: 60151388002** Collected: 08/19/13 13:30 Received: 08/21/13 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		08/21/13 21:06	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/21/13 21:06	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/21/13 21:06	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/13 21:06	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/21/13 21:06	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/21/13 21:06	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/21/13 21:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/21/13 21:06	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/21/13 21:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 21:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 21:06	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/21/13 21:06	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/21/13 21:06	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/21/13 21:06	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/21/13 21:06	127-18-4	
Toluene	ND	ug/L	1.0	1		08/21/13 21:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/21/13 21:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/21/13 21:06	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/21/13 21:06	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/21/13 21:06	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/21/13 21:06	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		08/21/13 21:06	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		08/21/13 21:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	1		08/21/13 21:06	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/21/13 21:06		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: MERP/7634
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151388001

METHOD BLANK: 1240679 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/23/13 09:48	

LABORATORY CONTROL SAMPLE: 1240680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240681 1240682

Parameter	Units	60151485001 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	1.1	0.93	21	19	70-130	13	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151388001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: MPRP/23943
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151388001

METHOD BLANK: 1240394 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/23/13 16:33	
Antimony	ug/L	ND	10.0	08/23/13 16:33	
Arsenic	ug/L	ND	10.0	08/23/13 16:33	
Beryllium	ug/L	ND	1.0	08/23/13 16:33	
Cadmium	ug/L	ND	5.0	08/23/13 16:33	
Chromium	ug/L	ND	5.0	08/23/13 16:33	
Cobalt	ug/L	ND	5.0	08/23/13 16:33	
Copper	ug/L	ND	10.0	08/23/13 16:33	
Iron	ug/L	ND	50.0	08/23/13 16:33	
Lead	ug/L	ND	5.0	08/26/13 11:17	
Nickel	ug/L	ND	5.0	08/23/13 16:33	
Selenium	ug/L	ND	15.0	08/23/13 16:33	
Silver	ug/L	ND	7.0	08/23/13 16:33	
Thallium	ug/L	ND	20.0	08/23/13 16:33	
Zinc	ug/L	ND	50.0	08/23/13 16:33	

LABORATORY CONTROL SAMPLE: 1240395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	85-115	
Antimony	ug/L	1000	970	97	85-115	
Arsenic	ug/L	1000	951	95	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	946	95	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	967	97	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1060	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240396 1240397

Parameter	Units	60151126001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	395	10000	10000	11200	11100	108	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240396 1240397

Parameter	Units	60151126001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	957	963	96	96	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	965	964	96	96	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	978	980	98	98	70-130	0	10	
Chromium	ug/L	ND	1000	1000	1020	1020	102	101	70-130	1	10	
Cobalt	ug/L	15.4	1000	1000	1000	1010	99	99	70-130	0	6	
Copper	ug/L	17.3	1000	1000	978	978	96	96	70-130	0	11	
Iron	ug/L	3530	10000	10000	13500	13500	100	100	70-130	0	10	
Lead	ug/L	ND	1000	1000	1000	1040	100	104	70-130	4	10	
Nickel	ug/L	ND	1000	1000	1010	1010	100	100	70-130	0	10	
Selenium	ug/L	ND	1000	1000	958	964	96	96	70-130	1	10	
Silver	ug/L	ND	500	500	489	491	98	98	70-130	0	10	
Thallium	ug/L	ND	1000	1000	958	953	96	95	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1070	1070	104	104	70-130	0	11	

MATRIX SPIKE SAMPLE: 1240398

Parameter	Units	60151366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10100	101	70-130	
Antimony	ug/L	ND	1000	968	97	70-130	
Arsenic	ug/L	ND	1000	951	95	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	971	97	70-130	
Chromium	ug/L	ND	1000	985	98	70-130	
Cobalt	ug/L	ND	1000	990	99	70-130	
Copper	ug/L	14.4	1000	953	94	70-130	
Iron	ug/L	ND	10000	9760	97	70-130	
Lead	ug/L	ND	1000	999	100	70-130	
Nickel	ug/L	ND	1000	1010	101	70-130	
Selenium	ug/L	ND	1000	963	96	70-130	
Silver	ug/L	ND	500	482	96	70-130	
Thallium	ug/L	ND	1000	958	96	70-130	
Zinc	ug/L	ND	1000	1060	103	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151388001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L	ND	10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L	ND	1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L	1.1J	1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	9.8J	1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: MSV/55691 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151388001, 60151388002

METHOD BLANK: 1239406 Matrix: Water
Associated Lab Samples: 60151388001, 60151388002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/13 17:11	
Benzene	ug/L	ND	1.0	08/21/13 17:11	
Bromodichloromethane	ug/L	ND	1.0	08/21/13 17:11	
Bromoform	ug/L	ND	1.0	08/21/13 17:11	
Bromomethane	ug/L	ND	5.0	08/21/13 17:11	
Carbon tetrachloride	ug/L	ND	1.0	08/21/13 17:11	
Chloroethane	ug/L	ND	1.0	08/21/13 17:11	
Chloroform	ug/L	ND	1.0	08/21/13 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Ethylbenzene	ug/L	ND	1.0	08/21/13 17:11	
Methylene chloride	ug/L	ND	1.0	08/21/13 17:11	
Tetrachloroethene	ug/L	ND	1.0	08/21/13 17:11	
Toluene	ug/L	ND	1.0	08/21/13 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Trichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Vinyl chloride	ug/L	ND	1.0	08/21/13 17:11	
Xylene (Total)	ug/L	ND	3.0	08/21/13 17:11	
1,2-Dichloroethane-d4 (S)	%	105	80-120	08/21/13 17:11	
4-Bromofluorobenzene (S)	%	103	80-120	08/21/13 17:11	
Toluene-d8 (S)	%	99	80-120	08/21/13 17:11	

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	59-138	
1,1,2-Trichloroethane	ug/L	20	16.4	82	69-127	
1,2-Dichloroethane	ug/L	20	19.0	95	71-129	
1,4-Dichlorobenzene	ug/L	20	17.8	89	68-124	
Benzene	ug/L	20	18.6	93	73-129	
Bromodichloromethane	ug/L	20	17.8	89	63-129	
Bromoform	ug/L	20	18.4	92	52-123	
Bromomethane	ug/L	20	15.1	75	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	17.8	89	42-160	
Chloroform	ug/L	20	17.9	89	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	17.2	86	64-143	
Toluene	ug/L	20	17.5	87	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	17.6	88	41-160	
Xylene (Total)	ug/L	60	52.8	88	67-130	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1239408

Parameter	Units	60151250001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4470	112	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3470	87	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3980	99	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3990	98	18-147	
Benzene	ug/L	ND	4000	3870	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3780	95	45-133	
Bromomethane	ug/L	ND	4000	2650	66	10-160	
Carbon tetrachloride	ug/L	ND	4000	4240	106	70-140	
Chloroethane	ug/L	ND	4000	3660	91	14-160	
Chloroform	ug/L	ND	4000	3900	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3900	98	19-160	
Ethylbenzene	ug/L	ND	4000	4170	104	37-154	
Methylene chloride	ug/L	ND	4000	3960	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4170	103	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-156	
Trichloroethene	ug/L	ND	4000	3680	92	71-157	
Vinyl chloride	ug/L	ND	4000	3580	90	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: OEXT/40018 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151388001

METHOD BLANK: 1240832 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/26/13 14:22	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/26/13 14:22	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachloroethane	ug/L	ND	5.0	08/26/13 14:22	
Naphthalene	ug/L	ND	5.0	08/26/13 14:22	
Nitrobenzene	ug/L	ND	5.0	08/26/13 14:22	
Pentachlorophenol	ug/L	ND	5.0	08/26/13 14:22	
Phenol	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Tribromophenol (S)	%	80	39-119	08/26/13 14:22	
2-Fluorobiphenyl (S)	%	81	36-120	08/26/13 14:22	
2-Fluorophenol (S)	%	46	18-120	08/26/13 14:22	
Nitrobenzene-d5 (S)	%	77	32-120	08/26/13 14:22	
Phenol-d6 (S)	%	31	12-120	08/26/13 14:22	
Terphenyl-d14 (S)	%	85	44-120	08/26/13 14:22	

LABORATORY CONTROL SAMPLE: 1240833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.0	78	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.9	80	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	50.3	101	31-147	
Hexachloro-1,3-butadiene	ug/L	50	39.6	79	41-116	
Hexachlorocyclopentadiene	ug/L	100	61.8	62	31-120	
Hexachloroethane	ug/L	50	37.5	75	40-113	
Naphthalene	ug/L	50	40.3	81	48-120	
Nitrobenzene	ug/L	50	40.4	81	47-120	
Pentachlorophenol	ug/L	50	40.0	80	43-127	
Phenol	ug/L	50	17.4	35	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			81	36-120	
2-Fluorophenol (S)	%			45	18-120	
Nitrobenzene-d5 (S)	%			78	32-120	
Phenol-d6 (S)	%			31	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

MATRIX SPIKE SAMPLE: 1240874

Parameter	Units	60151426001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.73	50	37.8	76	44-120	
2,4,6-Trichlorophenol	ug/L	<1.5	50	34.5	69	37-121	
4,6-Dinitro-2-methylphenol	ug/L	<0.71	50	50.4	101	27-146	
Hexachloro-1,3-butadiene	ug/L	<0.98	50	37.3	75	27-116	
Hexachlorocyclopentadiene	ug/L	<2.1	100	65.1	65	11-120	
Hexachloroethane	ug/L	<0.62	50	35.5	71	40-113	
Naphthalene	ug/L	<0.58	50	39.0	78	32-120	
Nitrobenzene	ug/L	<0.65	50	40.1	80	35-128	
Pentachlorophenol	ug/L	<1.7	50	38.0	76	38-133	
Phenol	ug/L	<0.51	50	15.9	32	13-112	
2,4,6-Tribromophenol (S)	%				76	39-119	
2-Fluorobiphenyl (S)	%				78	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				75	32-120	
Phenol-d6 (S)	%				30	12-120	
Terphenyl-d14 (S)	%				86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: WET/43023
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151388001

METHOD BLANK: 1240818 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/23/13 07:04	

LABORATORY CONTROL SAMPLE: 1240819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.1	105	78-114	

MATRIX SPIKE SAMPLE: 1240822

Parameter	Units	60151135001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	46.1	105	78-114	

SAMPLE DUPLICATE: 1240823

Parameter	Units	60151135003 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	37.3	43.7	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: WET/43080 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151388001

METHOD BLANK: 1243173 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/27/13 14:32	

LABORATORY CONTROL SAMPLE: 1243174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.2	106	64-132	

MATRIX SPIKE SAMPLE: 1243183

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.7	20.8	22.4	61	64-132	M1

SAMPLE DUPLICATE: 1243184

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.0	10.6	41	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: WET/43004 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151388001

METHOD BLANK: 1240120 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/22/13 10:22	

SAMPLE DUPLICATE: 1240121

Parameter	Units	60151431001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1240122

Parameter	Units	60151332001 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 316-047
Pace Project No.: 60151388

QC Batch: WET/42999
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151388001

SAMPLE DUPLICATE: 1239985

Parameter	Units	60151311001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: WETA/25878
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151388001

METHOD BLANK: 1239315 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/21/13 12:58	

LABORATORY CONTROL SAMPLE: 1239316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1239317

Parameter	Units	60151209013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.5	76	90-110	M1

MATRIX SPIKE SAMPLE: 1239319

Parameter	Units	60151209015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	18.8	20	36.6	89	90-110	M1

SAMPLE DUPLICATE: 1239318

Parameter	Units	60151209014 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.1	1.1	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

QC Batch: WETA/25925 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151388001

METHOD BLANK: 1241822 Matrix: Water
Associated Lab Samples: 60151388001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/26/13 16:56	

LABORATORY CONTROL SAMPLE: 1241823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.1	96	90-110	

MATRIX SPIKE SAMPLE: 1241824

Parameter	Units	60150879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	19.3	50	75.0	111	90-110	M1

MATRIX SPIKE SAMPLE: 1241826

Parameter	Units	60151020001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	248	250	504	102	90-110	

SAMPLE DUPLICATE: 1241825

Parameter	Units	60150908001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	33.0	33.2	1	25	

SAMPLE DUPLICATE: 1242735

Parameter	Units	60151388001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	52600	45800	14	25	

SAMPLE DUPLICATE: 1242736

Parameter	Units	60151393001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	63100	60200	5	25	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALIFIERS

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-047
Pace Project No.: 60151388

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151388001	**316-047**	EPA 200.7	MPRP/23943	EPA 200.7	ICP/18739
60151388001	**316-047**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151388001	**316-047**	EPA 245.1	MERP/7634	EPA 245.1	MERC/7588
60151388001	**316-047**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151388001	**316-047**	EPA 625	OEXT/40018	EPA 625	MSSV/12688
60151388001	**316-047**	EPA 624 Low	MSV/55691		
60151388002	**TRIP BLANK**	EPA 624 Low	MSV/55691		
60151388001	**316-047**	EPA 1664A	WET/43023		
60151388001	**316-047**	EPA 1664A	WET/43080		
60151388001	**316-047**	SM 2540D	WET/43004		
60151388001	**316-047**	SM 4500-H+B	WET/42999		
60151388001	**316-047**	EPA 350.1	WETA/25878		
60151388001	**316-047**	EPA 410.4	WETA/25925		

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Sample Condition Upon Receipt

WO#: 60151388

60151388

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☐ None ☐ Other ☑ 2 PIC

Thermometer Used: T-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: PV 8/21/13

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5. PV 8/21/13
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. PH PH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	added 2.5 mL of HNO3 to BP3N. pH 6.0/4.0 Added 2.0 mL of H2SO4 to BP3S - pH 6.0/3.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed: PV / Lot # of added preservative:
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	5 of 5 bbl
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/21/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Other OT, Tissue TS)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60151388
1	316-047 1BP3U1BPZN 4.0 1BP3S 3.0 2D6AUTB		OT	G	8/19/13	1330				13	9	1	1	2	3AG1U	3AG1H			X	X	X	X	X	X	X	X	X	X	5D6AU		METALS LIST total & LF Dis:	601
2	TRIP BLANK									2	2															X					Al,Sb,As,Be,Cd,Cr,	602
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Ti,Zn	
4																															and Mercury	
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT BILL ABERNATHY 314-502-1299	Julie Croak	8-20-13	1620	[illegible] 559	8/20/13	1620				
SITE ADDRESS BRIDGETON LF				[illegible] PASE PVBRI	8/20	0140	1.1	Y	Y	Y
13570 ST. CHARLES ROCK RD					8/21/13					
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	John Powell
SIGNATURE of SAMPLER:	[signature]
DATE Signed:	08-19-13

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

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

August 27, 2013

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

RE: Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-048
Pace Project No.: 60151392

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 316-048
Pace Project No.: 60151392

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151392001	**316-048**	Water	08/20/13 12:20	08/21/13 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151392001	**316-048**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

Sample: 316-048 **Lab ID: 60151392001** Collected: 08/20/13 12:20 Received: 08/21/13 01:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**37100**	mg/L	2.0	1	08/21/13 15:14	08/26/13 10:10		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

QC Batch: WET/42980 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151392001

METHOD BLANK: 1239176 Matrix: Water
Associated Lab Samples: 60151392001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/26/13 08:43	

LABORATORY CONTROL SAMPLE: 1239177

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	178	90	85-115	

SAMPLE DUPLICATE: 1239178

Parameter	Units	60151307001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	5.5	5.4	2	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-048
Pace Project No.: 60151392

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151392001	**316-048**	SM 5210B	WET/42980	SM 5210B	WET/43056

REPORT OF LABORATORY ANALYSIS

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Sample Condition Upon Receipt

WO# : 60151392

60151392

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☒ zip lc

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

Cooler Temperature: 1.9

Date and initials of person examining contents: DJB 12/13

Temperature should be above freezing to 6°C

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 6/21/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60151392
1	316-048	OT	G	8/20/13	1220				1	1									X		1BP2G AU
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	Julie Cronk	8-20-13	1620		8/20/13	1620				
SITE ADDRESS: BRIDGETON LF				PACE	8/21/13	0140	1.9	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			
PRINT Name of SAMPLER:	John Powell		
SIGNATURE of SAMPLER:		DATE Signed:	08-20-13

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

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

August 28, 2013

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

RE: Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 21, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

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 316-048
Pace Project No.: 60151393

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151393001	**316-048**	Water	08/20/13 12:20	08/21/13 01:40
60151393002	**TRIP BLANK**	Water	08/20/13 12:20	08/21/13 01:40

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151393001	**316-048**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	1
		EPA 625	JMT	16
		EPA 624 Low	JKL	25
		EPA 1664A	JMC1	1
		EPA 1664A	JMC1	1
		SM 2540D	LEM	1
		SM 4500-H+B	DJR	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151393002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Sample: 316-048 **Lab ID: 60151393001** Collected: 08/20/13 12:20 Received: 08/21/13 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	**6050**	ug/L	375	5	08/22/13 16:00	08/23/13 18:03	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/22/13 16:00	08/23/13 18:03	7440-36-0	D3
Arsenic	**748**	ug/L	50.0	5	08/22/13 16:00	08/23/13 18:03	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/22/13 16:00	08/23/13 18:03	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/22/13 16:00	08/23/13 18:03	7440-43-9	D3
Chromium	**252**	ug/L	25.0	5	08/22/13 16:00	08/23/13 18:03	7440-47-3	
Cobalt	**49.0**	ug/L	25.0	5	08/22/13 16:00	08/23/13 18:03	7440-48-4	
Copper	ND	ug/L	50.0	5	08/22/13 16:00	08/23/13 18:03	7440-50-8	D3
Iron	**606000**	ug/L	250	5	08/22/13 16:00	08/23/13 18:03	7439-89-6	
Lead	**86.2**	ug/L	25.0	5	08/22/13 16:00	08/26/13 18:46	7439-92-1	
Nickel	**140**	ug/L	25.0	5	08/22/13 16:00	08/23/13 18:03	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/22/13 16:00	08/23/13 18:03	7782-49-2	D3
Silver	ND	ug/L	35.0	5	08/22/13 16:00	08/23/13 18:03	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/22/13 16:00	08/23/13 18:03	7440-28-0	D3
Zinc	**12000**	ug/L	1000	20	08/22/13 16:00	08/23/13 18:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2880**	ug/L	150	2	08/24/13 10:25	08/26/13 19:09	7429-90-5	
Antimony, Dissolved	**49.0**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:09	7440-36-0	D9
Arsenic, Dissolved	**744**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/24/13 10:25	08/26/13 19:23	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:09	7440-43-9	D3
Chromium, Dissolved	**212**	ug/L	25.0	5	08/24/13 10:25	08/26/13 19:23	7440-47-3	
Cobalt, Dissolved	**45.8**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:09	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:09	7440-50-8	D3
Iron, Dissolved	**505000**	ug/L	100	2	08/24/13 10:25	08/26/13 19:09	7439-89-6	
Lead, Dissolved	**61.2**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:09	7439-92-1	
Nickel, Dissolved	**122**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 19:23	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 19:09	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 19:23	7440-28-0	D3
Zinc, Dissolved	**9830**	ug/L	1000	20	08/24/13 10:25	08/26/13 19:52	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.7**	ug/L	0.20	1	08/22/13 17:05	08/23/13 10:04	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	08/24/13 15:00	08/26/13 12:17	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/23/13 00:00	08/26/13 15:25	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Sample: 316-048 **Lab ID: 60151393001** Collected: 08/20/13 12:20 Received: 08/21/13 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	20	08/23/13 00:00	08/26/13 15:25	87-86-5	
Phenol	**16300**	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:25	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/23/13 00:00	08/26/13 15:25	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/23/13 00:00	08/26/13 15:25	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/23/13 00:00	08/26/13 15:25	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/23/13 00:00	08/26/13 15:25	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/23/13 00:00	08/26/13 15:25	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/23/13 00:00	08/26/13 15:25	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/21/13 21:27	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/21/13 21:27	75-27-4	
Bromoform	ND	ug/L	200	200		08/21/13 21:27	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/21/13 21:27	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/21/13 21:27	56-23-5	
Chloroethane	ND	ug/L	200	200		08/21/13 21:27	75-00-3	
Chloroform	ND	ug/L	200	200		08/21/13 21:27	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/21/13 21:27	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/21/13 21:27	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 21:27	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/21/13 21:27	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/21/13 21:27	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/21/13 21:27	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/21/13 21:27	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/21/13 21:27	127-18-4	
Toluene	ND	ug/L	200	200		08/21/13 21:27	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/21/13 21:27	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/21/13 21:27	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/21/13 21:27	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/21/13 21:27	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/21/13 21:27	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		08/21/13 21:27	460-00-4	D3
Toluene-d8 (S)	98	%	80-120	200		08/21/13 21:27	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		08/21/13 21:27	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/21/13 21:27		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**588**	mg/L	5.0	1		08/23/13 07:05		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.1**	mg/L	5.0	1		08/27/13 14:33		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Sample: 316-048 **Lab ID: 60151393001** Collected: 08/20/13 12:20 Received: 08/21/13 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	**3680**	mg/L	5.0	1		08/22/13 10:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/22/13 07:55		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**717**	mg/L	20.0	200		08/21/13 13:02	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**63100**	mg/L	5000	500		08/26/13 17:12		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Sample: TRIP BLANK **Lab ID: 60151393002** Collected: 08/20/13 12:20 Received: 08/21/13 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		08/21/13 21:49	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/21/13 21:49	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/21/13 21:49	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/21/13 21:49	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/21/13 21:49	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/21/13 21:49	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/21/13 21:49	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/21/13 21:49	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/21/13 21:49	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 21:49	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/21/13 21:49	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/21/13 21:49	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/21/13 21:49	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/21/13 21:49	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/21/13 21:49	127-18-4	
Toluene	ND	ug/L	1.0	1		08/21/13 21:49	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/21/13 21:49	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/21/13 21:49	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/21/13 21:49	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/21/13 21:49	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/21/13 21:49	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		08/21/13 21:49	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		08/21/13 21:49	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		08/21/13 21:49	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/21/13 21:49		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: MERP/7634
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151393001

METHOD BLANK: 1240679 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/23/13 09:48	

LABORATORY CONTROL SAMPLE: 1240680

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.5	89	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240681 1240682

Parameter	Units	60151485001 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	1.1	0.93	21	19	70-130	13	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151393001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: MPRP/23943
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151393001

METHOD BLANK: 1240394 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/23/13 16:33	
Antimony	ug/L	ND	10.0	08/23/13 16:33	
Arsenic	ug/L	ND	10.0	08/23/13 16:33	
Beryllium	ug/L	ND	1.0	08/23/13 16:33	
Cadmium	ug/L	ND	5.0	08/23/13 16:33	
Chromium	ug/L	ND	5.0	08/23/13 16:33	
Cobalt	ug/L	ND	5.0	08/23/13 16:33	
Copper	ug/L	ND	10.0	08/23/13 16:33	
Iron	ug/L	ND	50.0	08/23/13 16:33	
Lead	ug/L	ND	5.0	08/26/13 11:17	
Nickel	ug/L	ND	5.0	08/23/13 16:33	
Selenium	ug/L	ND	15.0	08/23/13 16:33	
Silver	ug/L	ND	7.0	08/23/13 16:33	
Thallium	ug/L	ND	20.0	08/23/13 16:33	
Zinc	ug/L	ND	50.0	08/23/13 16:33	

LABORATORY CONTROL SAMPLE: 1240395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10600	106	85-115	
Antimony	ug/L	1000	970	97	85-115	
Arsenic	ug/L	1000	951	95	85-115	
Beryllium	ug/L	1000	1010	101	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	1040	104	85-115	
Cobalt	ug/L	1000	1020	102	85-115	
Copper	ug/L	1000	946	95	85-115	
Iron	ug/L	10000	10300	103	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1040	104	85-115	
Selenium	ug/L	1000	967	97	85-115	
Silver	ug/L	500	488	98	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1060	106	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240396 1240397

Parameter	Units	60151126001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	395	10000	10000	11200	11100	108	107	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1240396 1240397

Parameter	Units	60151126001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	957	963	96	96	70-130	1	7	
Arsenic	ug/L	ND	1000	1000	965	964	96	96	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	978	980	98	98	70-130	0	10	
Chromium	ug/L	ND	1000	1000	1020	1020	102	101	70-130	1	10	
Cobalt	ug/L	15.4	1000	1000	1000	1010	99	99	70-130	0	6	
Copper	ug/L	17.3	1000	1000	978	978	96	96	70-130	0	11	
Iron	ug/L	3530	10000	10000	13500	13500	100	100	70-130	0	10	
Lead	ug/L	ND	1000	1000	1000	1040	100	104	70-130	4	10	
Nickel	ug/L	ND	1000	1000	1010	1010	100	100	70-130	0	10	
Selenium	ug/L	ND	1000	1000	958	964	96	96	70-130	1	10	
Silver	ug/L	ND	500	500	489	491	98	98	70-130	0	10	
Thallium	ug/L	ND	1000	1000	958	953	96	95	70-130	0	6	
Zinc	ug/L	ND	1000	1000	1070	1070	104	104	70-130	0	11	

MATRIX SPIKE SAMPLE: 1240398

Parameter	Units	60151366001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	10100	101	70-130	
Antimony	ug/L	ND	1000	968	97	70-130	
Arsenic	ug/L	ND	1000	951	95	70-130	
Beryllium	ug/L	ND	1000	976	98	70-130	
Cadmium	ug/L	ND	1000	971	97	70-130	
Chromium	ug/L	ND	1000	985	98	70-130	
Cobalt	ug/L	ND	1000	990	99	70-130	
Copper	ug/L	14.4	1000	953	94	70-130	
Iron	ug/L	ND	10000	9760	97	70-130	
Lead	ug/L	ND	1000	999	100	70-130	
Nickel	ug/L	ND	1000	1010	101	70-130	
Selenium	ug/L	ND	1000	963	96	70-130	
Silver	ug/L	ND	500	482	96	70-130	
Thallium	ug/L	ND	1000	958	96	70-130	
Zinc	ug/L	ND	1000	1060	103	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151393001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L	ND	10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L	ND	1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L	1.1J	1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	9.8J	1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: MSV/55691 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151393001, 60151393002

METHOD BLANK: 1239406 Matrix: Water
Associated Lab Samples: 60151393001, 60151393002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/21/13 17:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/21/13 17:11	
Benzene	ug/L	ND	1.0	08/21/13 17:11	
Bromodichloromethane	ug/L	ND	1.0	08/21/13 17:11	
Bromoform	ug/L	ND	1.0	08/21/13 17:11	
Bromomethane	ug/L	ND	5.0	08/21/13 17:11	
Carbon tetrachloride	ug/L	ND	1.0	08/21/13 17:11	
Chloroethane	ug/L	ND	1.0	08/21/13 17:11	
Chloroform	ug/L	ND	1.0	08/21/13 17:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Ethylbenzene	ug/L	ND	1.0	08/21/13 17:11	
Methylene chloride	ug/L	ND	1.0	08/21/13 17:11	
Tetrachloroethene	ug/L	ND	1.0	08/21/13 17:11	
Toluene	ug/L	ND	1.0	08/21/13 17:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Trichloroethene	ug/L	ND	1.0	08/21/13 17:11	
Vinyl chloride	ug/L	ND	1.0	08/21/13 17:11	
Xylene (Total)	ug/L	ND	3.0	08/21/13 17:11	
1,2-Dichloroethane-d4 (S)	%	105	80-120	08/21/13 17:11	
4-Bromofluorobenzene (S)	%	103	80-120	08/21/13 17:11	
Toluene-d8 (S)	%	99	80-120	08/21/13 17:11	

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	18.7	94	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	21.3	106	59-138	
1,1,2-Trichloroethane	ug/L	20	16.4	82	69-127	
1,2-Dichloroethane	ug/L	20	19.0	95	71-129	
1,4-Dichlorobenzene	ug/L	20	17.8	89	68-124	
Benzene	ug/L	20	18.6	93	73-129	
Bromodichloromethane	ug/L	20	17.8	89	63-129	
Bromoform	ug/L	20	18.4	92	52-123	
Bromomethane	ug/L	20	15.1	75	10-160	
Carbon tetrachloride	ug/L	20	18.6	93	70-140	
Chloroethane	ug/L	20	17.8	89	42-160	
Chloroform	ug/L	20	17.9	89	60-120	
cis-1,2-Dichloroethene	ug/L	20	18.5	93	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

LABORATORY CONTROL SAMPLE: 1239407

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	19.4	97	56-135	
Tetrachloroethene	ug/L	20	17.2	86	64-143	
Toluene	ug/L	20	17.5	87	70-130	
trans-1,2-Dichloroethene	ug/L	20	18.0	90	67-149	
Trichloroethene	ug/L	20	16.9	84	71-130	
Vinyl chloride	ug/L	20	17.6	88	41-160	
Xylene (Total)	ug/L	60	52.8	88	67-130	
1,2-Dichloroethane-d4 (S)	%			107	80-120	
4-Bromofluorobenzene (S)	%			104	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1239408

Parameter	Units	60151250001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	4090	102	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4470	112	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3470	87	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3980	99	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3990	98	18-147	
Benzene	ug/L	ND	4000	3870	97	37-151	
Bromodichloromethane	ug/L	ND	4000	3860	96	35-155	
Bromoform	ug/L	ND	4000	3780	95	45-133	
Bromomethane	ug/L	ND	4000	2650	66	10-160	
Carbon tetrachloride	ug/L	ND	4000	4240	106	70-140	
Chloroethane	ug/L	ND	4000	3660	91	14-160	
Chloroform	ug/L	ND	4000	3900	96	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3900	98	19-160	
Ethylbenzene	ug/L	ND	4000	4170	104	37-154	
Methylene chloride	ug/L	ND	4000	3960	99	15-156	
Tetrachloroethene	ug/L	ND	4000	4170	103	64-148	
Toluene	ug/L	ND	4000	3890	97	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3770	94	54-156	
Trichloroethene	ug/L	ND	4000	3680	92	71-157	
Vinyl chloride	ug/L	ND	4000	3580	90	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				102	80-120	
4-Bromofluorobenzene (S)	%				101	80-120	
Toluene-d8 (S)	%				100	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: OEXT/40018 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151393001

METHOD BLANK: 1240832 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/26/13 14:22	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/26/13 14:22	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachloroethane	ug/L	ND	5.0	08/26/13 14:22	
Naphthalene	ug/L	ND	5.0	08/26/13 14:22	
Nitrobenzene	ug/L	ND	5.0	08/26/13 14:22	
Pentachlorophenol	ug/L	ND	5.0	08/26/13 14:22	
Phenol	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Tribromophenol (S)	%	80	39-119	08/26/13 14:22	
2-Fluorobiphenyl (S)	%	81	36-120	08/26/13 14:22	
2-Fluorophenol (S)	%	46	18-120	08/26/13 14:22	
Nitrobenzene-d5 (S)	%	77	32-120	08/26/13 14:22	
Phenol-d6 (S)	%	31	12-120	08/26/13 14:22	
Terphenyl-d14 (S)	%	85	44-120	08/26/13 14:22	

LABORATORY CONTROL SAMPLE: 1240833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.0	78	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.9	80	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	50.3	101	31-147	
Hexachloro-1,3-butadiene	ug/L	50	39.6	79	41-116	
Hexachlorocyclopentadiene	ug/L	100	61.8	62	31-120	
Hexachloroethane	ug/L	50	37.5	75	40-113	
Naphthalene	ug/L	50	40.3	81	48-120	
Nitrobenzene	ug/L	50	40.4	81	47-120	
Pentachlorophenol	ug/L	50	40.0	80	43-127	
Phenol	ug/L	50	17.4	35	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			81	36-120	
2-Fluorophenol (S)	%			45	18-120	
Nitrobenzene-d5 (S)	%			78	32-120	
Phenol-d6 (S)	%			31	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

MATRIX SPIKE SAMPLE: 1240874

Parameter	Units	60151426001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.73	50	37.8	76	44-120	
2,4,6-Trichlorophenol	ug/L	<1.5	50	34.5	69	37-121	
4,6-Dinitro-2-methylphenol	ug/L	<0.71	50	50.4	101	27-146	
Hexachloro-1,3-butadiene	ug/L	<0.98	50	37.3	75	27-116	
Hexachlorocyclopentadiene	ug/L	<2.1	100	65.1	65	11-120	
Hexachloroethane	ug/L	<0.62	50	35.5	71	40-113	
Naphthalene	ug/L	<0.58	50	39.0	78	32-120	
Nitrobenzene	ug/L	<0.65	50	40.1	80	35-128	
Pentachlorophenol	ug/L	<1.7	50	38.0	76	38-133	
Phenol	ug/L	<0.51	50	15.9	32	13-112	
2,4,6-Tribromophenol (S)	%				76	39-119	
2-Fluorobiphenyl (S)	%				78	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				75	32-120	
Phenol-d6 (S)	%				30	12-120	
Terphenyl-d14 (S)	%				86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: WET/43023
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151393001

METHOD BLANK: 1240818 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/23/13 07:04	

LABORATORY CONTROL SAMPLE: 1240819

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	42.1	105	78-114	

MATRIX SPIKE SAMPLE: 1240822

Parameter	Units	60151135001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	ND	40.4	46.1	105	78-114	

SAMPLE DUPLICATE: 1240823

Parameter	Units	60151135003 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	37.3	43.7	16	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: WET/43080 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151393001

METHOD BLANK: 1243173 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/27/13 14:32	

LABORATORY CONTROL SAMPLE: 1243174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.2	106	64-132	

MATRIX SPIKE SAMPLE: 1243183

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.7	20.8	22.4	61	64-132	M1

SAMPLE DUPLICATE: 1243184

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.0	10.6	41	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: WET/43004
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151393001

METHOD BLANK: 1240120
Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/22/13 10:22	

SAMPLE DUPLICATE: 1240121

Parameter	Units	60151431001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	ND	ND		25	

SAMPLE DUPLICATE: 1240122

Parameter	Units	60151332001 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 316-048
Pace Project No.: 60151393

QC Batch: WET/42999
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151393001

SAMPLE DUPLICATE: 1239985

Parameter	Units	60151311001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.3	7.4	1	5	H6

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: WETA/25878
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151393001

METHOD BLANK: 1239315 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/21/13 12:58	

LABORATORY CONTROL SAMPLE: 1239316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	106	90-110	

MATRIX SPIKE SAMPLE: 1239317

Parameter	Units	60151209013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	ND	2	1.5	76	90-110	M1

MATRIX SPIKE SAMPLE: 1239319

Parameter	Units	60151209015 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	18.8	20	36.6	89	90-110	M1

SAMPLE DUPLICATE: 1239318

Parameter	Units	60151209014 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	1.1	1.1	2	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

QC Batch: WETA/25925 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151393001

METHOD BLANK: 1241822 Matrix: Water
Associated Lab Samples: 60151393001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/26/13 16:56	

LABORATORY CONTROL SAMPLE: 1241823

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	48.1	96	90-110	

MATRIX SPIKE SAMPLE: 1241824

Parameter	Units	60150879001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	19.3	50	75.0	111	90-110	M1

MATRIX SPIKE SAMPLE: 1241826

Parameter	Units	60151020001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	248	250	504	102	90-110	

SAMPLE DUPLICATE: 1241825

Parameter	Units	60150908001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	33.0	33.2	1	25	

SAMPLE DUPLICATE: 1242735

Parameter	Units	60151388001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	52600	45800	14	25	

SAMPLE DUPLICATE: 1242736

Parameter	Units	60151393001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	63100	60200	5	25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-048
Pace Project No.: 60151393

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151393001	**316-048**	EPA 200.7	MPRP/23943	EPA 200.7	ICP/18739
60151393001	**316-048**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151393001	**316-048**	EPA 245.1	MERP/7634	EPA 245.1	MERC/7588
60151393001	**316-048**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151393001	**316-048**	EPA 625	OEXT/40018	EPA 625	MSSV/12688
60151393001	**316-048**	EPA 624 Low	MSV/55691		
60151393002	**TRIP BLANK**	EPA 624 Low	MSV/55691		
60151393001	**316-048**	EPA 1664A	WET/43023		
60151393001	**316-048**	EPA 1664A	WET/43080		
60151393001	**316-048**	SM 2540D	WET/43004		
60151393001	**316-048**	SM 4500-H+B	WET/42999		
60151393001	**316-048**	EPA 350.1	WETA/25878		
60151393001	**316-048**	EPA 410.4	WETA/25925		

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Sample Condition Upon Receipt

WO#: 60151393

60151393

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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

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

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

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

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

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PL 8/21/13

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. PH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☒N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix:	WT	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	4 of 5 D694 16. Amy foo TNOC
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: 8/21/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	
Missouri	

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60151393
1	316-048 1BP3U 1BP2U 1BP3N 4.0	OT	G	8/21/13	1220	1BP3S 3.0			13	9	1	1	2	3AG1U	3AG1H			X	X	X	X	X	X	X	X	X	X	5764U		METALS LIST total & LF Dis: Cu
2	TRIP BLANK 2064U								2	2															X				Al,Sb,As,Be,Cd,Cr, Fe
3																													Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																													and Mercury
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Cook	8-20-13	1620	GH SST	8/20/13	1620				
SITE ADDRESS: BRIDGETON LF				PHAS	8/21/13	0140	1-9	Y	Y	Y
18570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	John Powell					
SIGNATURE of SAMPLER:		DATE Signed: 08-20-13				

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(913)599-5665

August 29, 2013

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

RE: Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 22, 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 316-049
Pace Project No.: 60151493

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 316-049
Pace Project No.: 60151493

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151493001	**316-049**	Water	08/21/13 11:40	08/22/13 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151493001	**316-049**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

Sample: 316-049 **Lab ID: 60151493001** Collected: 08/21/13 11:40 Received: 08/22/13 01:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**34000**	mg/L	2.0	1	08/23/13 08:51	08/28/13 08:37		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

QC Batch: WET/43025
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151493001

METHOD BLANK: 1240869 Matrix: Water
Associated Lab Samples: 60151493001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/28/13 08:05	

LABORATORY CONTROL SAMPLE: 1240870

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	89	85-115	

SAMPLE DUPLICATE: 1240871

Parameter	Units	60151493001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	34000	32400	5	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

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.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-049
Pace Project No.: 60151493

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151493001	**316-049**	SM 5210B	WET/43025	SM 5210B	WET/43096

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Sample Condition Upon Receipt

WO#: 60151493

60151493

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☑ Zip/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: 2-3

Date and initials of person examining contents: pv 01/22/13

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 1/22/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60154493
1	316-049	OT	G	8/21/13	1140				1	1									X		IBP2U 001
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heikes	8-21-13	1650	[illegible]	8/21/13	1650				
SITE ADDRESS: BRIDGETON LF				[illegible] PACE	8/22/13	0135	2-3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	
SIGNATURE of SAMPLER:	DATE Signed:

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August 30, 2013

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

RE: Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 22, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

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 316-049
Pace Project No.: 60151494

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151494001	**316-049**	Water	08/21/13 11:40	08/22/13 01:35
60151494002	**TRIP BLANK**	Water	08/21/13 11:40	08/22/13 01:35

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151494001	**316-049**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151494002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Sample: 316-049 **Lab ID: 60151494001** Collected: 08/21/13 11:40 Received: 08/22/13 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	**7580**	ug/L	150	2	08/26/13 10:15	08/28/13 12:15	7429-90-5	
Antimony	**40.7**	ug/L	20.0	2	08/26/13 10:15	08/28/13 12:15	7440-36-0	
Arsenic	**920**	ug/L	20.0	2	08/26/13 10:15	08/28/13 12:15	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/26/13 10:15	08/28/13 12:19	7440-41-7	D3
Cadmium	**14.7**	ug/L	10.0	2	08/26/13 10:15	08/28/13 12:15	7440-43-9	
Chromium	**256**	ug/L	25.0	5	08/26/13 10:15	08/28/13 12:19	7440-47-3	
Cobalt	**55.1**	ug/L	10.0	2	08/26/13 10:15	08/28/13 12:15	7440-48-4	
Copper	ND	ug/L	20.0	2	08/26/13 10:15	08/28/13 12:15	7440-50-8	D3
Iron	**716000**	ug/L	100	2	08/26/13 10:15	08/28/13 12:15	7439-89-6	
Lead	**194**	ug/L	10.0	2	08/26/13 10:15	08/28/13 12:15	7439-92-1	
Nickel	**148**	ug/L	10.0	2	08/26/13 10:15	08/28/13 12:15	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/26/13 10:15	08/28/13 12:19	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/26/13 10:15	08/28/13 12:15	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/26/13 10:15	08/28/13 12:19	7440-28-0	D3
Zinc	**10500**	ug/L	1000	20	08/26/13 10:15	08/28/13 12:22	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2590**	ug/L	150	2	08/24/13 10:25	08/26/13 19:12	7429-90-5	
Antimony, Dissolved	**50.3**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:12	7440-36-0	D9
Arsenic, Dissolved	**723**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:12	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	08/24/13 10:25	08/26/13 19:55	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:12	7440-43-9	D3
Chromium, Dissolved	**209**	ug/L	25.0	5	08/24/13 10:25	08/26/13 19:26	7440-47-3	
Cobalt, Dissolved	**41.3**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:12	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:12	7440-50-8	D3
Iron, Dissolved	**450000**	ug/L	100	2	08/24/13 10:25	08/26/13 19:12	7439-89-6	
Lead, Dissolved	**53.2**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:12	7439-92-1	
Nickel, Dissolved	**124**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:12	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 19:26	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 19:12	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 19:26	7440-28-0	D3
Zinc, Dissolved	**8720**	ug/L	1000	20	08/24/13 10:25	08/26/13 19:55	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.45**	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:07	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	08/24/13 15:00	08/26/13 12:19	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/23/13 00:00	08/26/13 15:45	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Sample: 316-049 **Lab ID: 60151494001** Collected: 08/21/13 11:40 Received: 08/22/13 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	20	08/23/13 00:00	08/26/13 15:45	87-86-5	
Phenol	**15500**	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/23/13 00:00	08/26/13 15:45	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/23/13 00:00	08/26/13 15:45	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/23/13 00:00	08/26/13 15:45	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/23/13 00:00	08/26/13 15:45	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/23/13 00:00	08/26/13 15:45	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/23/13 00:00	08/26/13 15:45	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/23/13 00:00	08/26/13 15:45	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 14:58	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 14:58	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 14:58	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 14:58	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 14:58	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 14:58	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 14:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 14:58	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 14:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 14:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 14:58	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 14:58	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 14:58	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 14:58	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 14:58	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 14:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 14:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 14:58	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 14:58	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 14:58	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 14:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		08/27/13 14:58	460-00-4	D3
Toluene-d8 (S)	97	%	80-120	200		08/27/13 14:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		08/27/13 14:58	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 14:58		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**274**	mg/L	5.0	1		08/26/13 14:34		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.7**	mg/L	5.0	1		08/27/13 14:37		M1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Sample: 316-049 **Lab ID: 60151494001** Collected: 08/21/13 11:40 Received: 08/22/13 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	**2780**	mg/L	5.0	1		08/27/13 13:40		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**763**	mg/L	20.0	200		08/26/13 10:18	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**56000**	mg/L	5000	500		08/28/13 12:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Sample: TRIP BLANK **Lab ID: 60151494002** Collected: 08/21/13 11:40 Received: 08/22/13 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		08/27/13 12:48	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 12:48	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 12:48	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 12:48	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 12:48	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 12:48	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 12:48	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 12:48	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 12:48	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 12:48	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 12:48	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 12:48	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 12:48	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 12:48	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 12:48	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 12:48	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 12:48	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 12:48	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 12:48	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 12:48	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 12:48	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		08/27/13 12:48	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/27/13 12:48	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		08/27/13 12:48	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/27/13 12:48		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151494001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151494001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: MPRP/23970
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151494001

METHOD BLANK: 1242325 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/28/13 10:53	
Antimony	ug/L	ND	10.0	08/28/13 10:53	
Arsenic	ug/L	ND	10.0	08/28/13 10:53	
Beryllium	ug/L	ND	1.0	08/28/13 10:53	
Cadmium	ug/L	ND	5.0	08/28/13 10:53	
Chromium	ug/L	ND	5.0	08/28/13 10:53	
Cobalt	ug/L	ND	5.0	08/28/13 10:53	
Copper	ug/L	ND	10.0	08/28/13 10:53	
Iron	ug/L	ND	50.0	08/28/13 10:53	
Lead	ug/L	ND	5.0	08/28/13 10:53	
Nickel	ug/L	ND	5.0	08/28/13 10:53	
Selenium	ug/L	ND	15.0	08/28/13 10:53	
Silver	ug/L	ND	7.0	08/28/13 10:53	
Thallium	ug/L	ND	20.0	08/28/13 10:53	
Zinc	ug/L	ND	50.0	08/28/13 10:53	

LABORATORY CONTROL SAMPLE: 1242326

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9880	99	85-115	
Antimony	ug/L	1000	998	100	85-115	
Arsenic	ug/L	1000	976	98	85-115	
Beryllium	ug/L	1000	1000	100	85-115	
Cadmium	ug/L	1000	981	98	85-115	
Chromium	ug/L	1000	998	100	85-115	
Cobalt	ug/L	1000	1000	100	85-115	
Copper	ug/L	1000	972	97	85-115	
Iron	ug/L	10000	9980	100	85-115	
Lead	ug/L	1000	1010	101	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1000	100	85-115	
Silver	ug/L	500	487	97	85-115	
Thallium	ug/L	1000	1020	102	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1242327 1242328

Parameter	Units	60151385001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	2070	10000	10000	13300	13100	112	111	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1242327 1242328

Parameter	Units	60151385001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1020	1010	101	101	70-130	0	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	101	101	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	999	1000	100	100	70-130	0	7	
Cadmium	ug/L	ND	1000	1000	992	991	99	99	70-130	0	10	
Chromium	ug/L	ND	1000	1000	989	992	98	99	70-130	0	10	
Cobalt	ug/L	ND	1000	1000	994	993	99	99	70-130	0	6	
Copper	ug/L	ND	1000	1000	997	1000	99	100	70-130	0	11	
Iron	ug/L	1650	10000	10000	12000	11900	103	102	70-130	1	10	
Lead	ug/L	ND	1000	1000	994	991	99	99	70-130	0	10	
Nickel	ug/L	6.2	1000	1000	1020	1020	101	101	70-130	0	10	
Selenium	ug/L	ND	1000	1000	1030	1030	102	102	70-130	0	10	
Silver	ug/L	ND	500	500	488	488	98	98	70-130	0	10	
Thallium	ug/L	ND	1000	1000	974	974	97	97	70-130	0	6	
Zinc	ug/L	53.8	1000	1000	1070	1070	102	101	70-130	0	11	

MATRIX SPIKE SAMPLE: 1242329

Parameter	Units	60151522001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	55.7J	10000	9770	97	70-130	
Antimony	ug/L	ND	1000	1070	107	70-130	
Arsenic	ug/L	ND	1000	1040	104	70-130	
Beryllium	ug/L	ND	1000	981	98	70-130	
Cadmium	ug/L	2.6J	1000	1020	102	70-130	
Chromium	ug/L	ND	1000	950	95	70-130	
Cobalt	ug/L	16.7	1000	1000	99	70-130	
Copper	ug/L	3.9J	1000	1020	102	70-130	
Iron	ug/L	76.4	10000	9700	96	70-130	
Lead	ug/L	4.6J	1000	989	98	70-130	
Nickel	ug/L	35.5	1000	1040	100	70-130	
Selenium	ug/L	ND	1000	1060	106	70-130	
Silver	ug/L	ND	500	489	98	70-130	
Thallium	ug/L	ND	1000	997	99	70-130	
Zinc	ug/L	1710	1000	2600	89	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151494001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L	ND	10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L	ND	1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L	1.1J	1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	9.8J	1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: MSV/55839 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151494001, 60151494002

METHOD BLANK: 1242924 Matrix: Water
Associated Lab Samples: 60151494001, 60151494002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: OEXT/40018
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60151494001

METHOD BLANK: 1240832 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/26/13 14:22	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/26/13 14:22	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/26/13 14:22	
Hexachloroethane	ug/L	ND	5.0	08/26/13 14:22	
Naphthalene	ug/L	ND	5.0	08/26/13 14:22	
Nitrobenzene	ug/L	ND	5.0	08/26/13 14:22	
Pentachlorophenol	ug/L	ND	5.0	08/26/13 14:22	
Phenol	ug/L	ND	5.0	08/26/13 14:22	
2,4,6-Tribromophenol (S)	%	80	39-119	08/26/13 14:22	
2-Fluorobiphenyl (S)	%	81	36-120	08/26/13 14:22	
2-Fluorophenol (S)	%	46	18-120	08/26/13 14:22	
Nitrobenzene-d5 (S)	%	77	32-120	08/26/13 14:22	
Phenol-d6 (S)	%	31	12-120	08/26/13 14:22	
Terphenyl-d14 (S)	%	85	44-120	08/26/13 14:22	

LABORATORY CONTROL SAMPLE: 1240833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.0	78	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.9	80	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	50.3	101	31-147	
Hexachloro-1,3-butadiene	ug/L	50	39.6	79	41-116	
Hexachlorocyclopentadiene	ug/L	100	61.8	62	31-120	
Hexachloroethane	ug/L	50	37.5	75	40-113	
Naphthalene	ug/L	50	40.3	81	48-120	
Nitrobenzene	ug/L	50	40.4	81	47-120	
Pentachlorophenol	ug/L	50	40.0	80	43-127	
Phenol	ug/L	50	17.4	35	15-112	
2,4,6-Tribromophenol (S)	%			90	39-119	
2-Fluorobiphenyl (S)	%			81	36-120	
2-Fluorophenol (S)	%			45	18-120	
Nitrobenzene-d5 (S)	%			78	32-120	
Phenol-d6 (S)	%			31	12-120	
Terphenyl-d14 (S)	%			89	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

MATRIX SPIKE SAMPLE: 1240874

Parameter	Units	60151426001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	<0.73	50	37.8	76	44-120	
2,4,6-Trichlorophenol	ug/L	<1.5	50	34.5	69	37-121	
4,6-Dinitro-2-methylphenol	ug/L	<0.71	50	50.4	101	27-146	
Hexachloro-1,3-butadiene	ug/L	<0.98	50	37.3	75	27-116	
Hexachlorocyclopentadiene	ug/L	<2.1	100	65.1	65	11-120	
Hexachloroethane	ug/L	<0.62	50	35.5	71	40-113	
Naphthalene	ug/L	<0.58	50	39.0	78	32-120	
Nitrobenzene	ug/L	<0.65	50	40.1	80	35-128	
Pentachlorophenol	ug/L	<1.7	50	38.0	76	38-133	
Phenol	ug/L	<0.51	50	15.9	32	13-112	
2,4,6-Tribromophenol (S)	%				76	39-119	
2-Fluorobiphenyl (S)	%				78	36-120	
2-Fluorophenol (S)	%				44	18-120	
Nitrobenzene-d5 (S)	%				75	32-120	
Phenol-d6 (S)	%				30	12-120	
Terphenyl-d14 (S)	%				86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WET/43064 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151494001

METHOD BLANK: 1242579 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/26/13 14:30	

LABORATORY CONTROL SAMPLE: 1242580

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: 1242583

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	274	41.7	307	78	78-114	

SAMPLE DUPLICATE: 1242584

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	220	185	17	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WET/43080 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151494001

METHOD BLANK: 1243173 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/27/13 14:32	

LABORATORY CONTROL SAMPLE: 1243174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.2	106	64-132	

MATRIX SPIKE SAMPLE: 1243183

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.7	20.8	22.4	61	64-132	M1

SAMPLE DUPLICATE: 1243184

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.0	10.6	41	34	D6

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WET/43076 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151494001

METHOD BLANK: 1243044 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/27/13 13:35	

SAMPLE DUPLICATE: 1243045

Parameter	Units	60151607001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	91.4	91.4	0	25	

SAMPLE DUPLICATE: 1243046

Parameter	Units	60151598004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	7.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151494001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WETA/25930
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151494001

METHOD BLANK: 1242221 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/26/13 10:11	

LABORATORY CONTROL SAMPLE: 1242222

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

MATRIX SPIKE SAMPLE: 1242223

Parameter	Units	60151616001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	718	400	1040	81	90-110	M1

SAMPLE DUPLICATE: 1242224

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	703	696	1	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

QC Batch: WETA/25952
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60151494001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151494001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-049
Pace Project No.: 60151494

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151494001	**316-049**	EPA 200.7	MPRP/23970	EPA 200.7	ICP/18752
60151494001	**316-049**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151494001	**316-049**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151494001	**316-049**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151494001	**316-049**	EPA 625	OEXT/40018	EPA 625	MSSV/12688
60151494001	**316-049**	EPA 624 Low	MSV/55839		
60151494002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151494001	**316-049**	EPA 1664A	WET/43064		
60151494001	**316-049**	EPA 1664A	WET/43080		
60151494001	**316-049**	SM 2540D	WET/43076		
60151494001	**316-049**	SM 4500-H+B	WET/43083		
60151494001	**316-049**	EPA 350.1	WETA/25930		
60151494001	**316-049**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO# : 60151494

60151494

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: PV 8/22/13

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. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	14.
Exceptions: (VOA), coliform, TOC, (O&G), WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present: Pace Trip Blank lot # (if purchased): 091513-3	☑Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/22/13

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

Regulatory Agency	
State / Location	
Missouri	

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	60151494
1	316-049 1BP3U 1BP3N 1BP3S 2DG4U	OT	G	8/21/13	1140	1BP3U	3A61H		13	9	1	1	2	3A61H				X	X	X	X	X	X	X	X	X	X	5DG4U		METALS LIST total & LF Dis: Al,Sb,As,Be,Cd,Cr, Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn and Mercury
2	TRIP BLANK								2	2														X					
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	Emily Heikes	8-21-13	1650	[signature] SSV	8/21/13	1650				
SITE ADDRESS: BRIDGETON LF				[signature] PASE	8/22/13	0135	2-3	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:	DATE Signed:				

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

August 29, 2013

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

RE: Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-050
Pace Project No.: 60151615

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 316-050
Pace Project No.: 60151615

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151615001	**316-050**	Water	08/22/13 13:45	08/23/13 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151615001	**316-050**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

Sample: 316-050 **Lab ID: 60151615001** Collected: 08/22/13 13:45 Received: 08/23/13 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29000**	mg/L	2.0	1	08/23/13 15:41	08/28/13 14:32		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

QC Batch: WET/43039
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151615001

METHOD BLANK: 1241386 Matrix: Water
Associated Lab Samples: 60151615001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/28/13 14:21	

LABORATORY CONTROL SAMPLE: 1241387

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	176	89	85-115	

SAMPLE DUPLICATE: 1241388

Parameter	Units	60151615001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	29000	31800	9	17	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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TNI - The NELAC Institute.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-050
Pace Project No.: 60151615

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151615001	**316-050**	SM 5210B	WET/43039	SM 5210B	WET/43104

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Sample Condition Upon Receipt

WO#: 60151615

60151615

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☐ Foam ☐ None ☐ Other ☐ 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: 2.5

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. BOD
Rush Turn Around Time requested:	☐Yes ☐No ☐N/A	7.
Sufficient volume:	☐Yes ☐No ☐N/A	8.
Correct containers used:	☐Yes ☐No ☐N/A	
Pace containers used:	☐Yes ☐No ☐N/A	9.
Containers intact:	☐Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☐N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☐N/A	12.
Sample labels match COC:	☐Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☐No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☐No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☐No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): ~~Aug 8/23 19~~ 8/23		15.
Headspace in VOA vials (>6mm):	☐Yes ☐No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 2/22/11

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60151615
1	316-050	OT	G	8/22/13	1345				1	1									X		BP2U 001
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT BILL ABERNATHY 314-502-1299	Emily Heikes	8-22-13	1610	GH 554	8/22/13	1610				
SITE ADDRESS BRIDGETON LF				Shadela McK / PSA	8/23/13	0100	2.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-22-13

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August 30, 2013

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

RE: Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-050
Pace Project No.: 60151616

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 316-050
Pace Project No.: 60151616

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151616001	**316-050**	Water	08/22/13 13:45	08/23/13 01:00
60151616002	**TRIP BLANK**	Water	08/22/13 08:00	08/23/13 01:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151616001	**316-050**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151616002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Sample: 316-050 **Lab ID: 60151616001** Collected: 08/22/13 13:45 Received: 08/23/13 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5480**	ug/L	150	2	08/27/13 10:30	08/29/13 15:52	7429-90-5	
Antimony	**48.9**	ug/L	20.0	2	08/27/13 10:30	08/29/13 15:52	7440-36-0	
Arsenic	**745**	ug/L	20.0	2	08/27/13 10:30	08/29/13 15:52	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/27/13 10:30	08/29/13 15:52	7440-41-7	D3
Cadmium	ND	ug/L	10.0	2	08/27/13 10:30	08/29/13 15:52	7440-43-9	D3
Chromium	**218**	ug/L	25.0	5	08/27/13 10:30	08/29/13 15:55	7440-47-3	
Cobalt	**50.5**	ug/L	10.0	2	08/27/13 10:30	08/29/13 15:52	7440-48-4	
Copper	ND	ug/L	20.0	2	08/27/13 10:30	08/29/13 15:52	7440-50-8	D3
Iron	**641000**	ug/L	100	2	08/27/13 10:30	08/29/13 15:52	7439-89-6	
Lead	**143**	ug/L	10.0	2	08/27/13 10:30	08/29/13 15:52	7439-92-1	
Nickel	**140**	ug/L	10.0	2	08/27/13 10:30	08/29/13 15:52	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/27/13 10:30	08/29/13 15:55	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/27/13 10:30	08/29/13 15:52	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/27/13 10:30	08/29/13 15:55	7440-28-0	D3
Zinc	**10100**	ug/L	1000	20	08/27/13 10:30	08/29/13 15:59	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2190**	ug/L	150	2	08/24/13 10:25	08/26/13 19:16	7429-90-5	
Antimony, Dissolved	**43.2**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:16	7440-36-0	
Arsenic, Dissolved	**604**	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:16	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	08/24/13 10:25	08/26/13 19:58	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:16	7440-43-9	D3
Chromium, Dissolved	**184**	ug/L	25.0	5	08/24/13 10:25	08/26/13 19:46	7440-47-3	
Cobalt, Dissolved	**40.8**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:16	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/24/13 10:25	08/26/13 19:16	7440-50-8	D3
Iron, Dissolved	**381000**	ug/L	100	2	08/24/13 10:25	08/26/13 19:16	7439-89-6	
Lead, Dissolved	**47.3**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:16	7439-92-1	
Nickel, Dissolved	**118**	ug/L	10.0	2	08/24/13 10:25	08/26/13 19:16	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/24/13 10:25	08/26/13 19:46	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/24/13 10:25	08/26/13 19:16	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/24/13 10:25	08/26/13 19:46	7440-28-0	D3
Zinc, Dissolved	**8060**	ug/L	1000	20	08/24/13 10:25	08/26/13 19:58	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.31**	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:09	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	08/24/13 15:00	08/26/13 12:26	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/26/13 00:00	08/27/13 13:57	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Sample: 316-050 **Lab ID: 60151616001** Collected: 08/22/13 13:45 Received: 08/23/13 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	87-86-5	
Phenol	**16300**	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 13:57	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/26/13 00:00	08/27/13 13:57	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/26/13 00:00	08/27/13 13:57	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/26/13 00:00	08/27/13 13:57	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/26/13 00:00	08/27/13 13:57	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/26/13 00:00	08/27/13 13:57	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/26/13 00:00	08/27/13 13:57	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 15:19	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 15:19	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 15:19	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 15:19	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 15:19	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 15:19	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 15:19	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 15:19	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 15:19	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 15:19	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 15:19	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 15:19	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 15:19	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 15:19	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 15:19	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 15:19	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 15:19	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 15:19	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 15:19	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 15:19	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 15:19	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	200		08/27/13 15:19	460-00-4	D3,HS
Toluene-d8 (S)	99	%	80-120	200		08/27/13 15:19	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	200		08/27/13 15:19	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 15:19		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**514**	mg/L	5.0	1		08/30/13 07:03		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**5.6**	mg/L	5.0	1		08/30/13 07:07		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Sample: 316-050 **Lab ID: 60151616001** Collected: 08/22/13 13:45 Received: 08/23/13 01:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3040**	mg/L	5.0	1		08/27/13 13:40		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.9**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**718**	mg/L	20.0	200		08/26/13 10:13	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47900**	mg/L	5000	500		08/28/13 12:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Sample: TRIP BLANK **Lab ID: 60151616002** Collected: 08/22/13 08:00 Received: 08/23/13 01:00 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		08/27/13 13:10	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 13:10	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 13:10	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 13:10	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 13:10	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 13:10	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 13:10	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 13:10	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 13:10	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:10	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:10	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 13:10	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 13:10	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 13:10	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 13:10	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 13:10	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:10	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:10	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 13:10	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 13:10	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 13:10	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	102	%	80-120	1		08/27/13 13:10	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		08/27/13 13:10	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	1		08/27/13 13:10	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/27/13 13:10		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151616001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: MERP/7638
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151616001

METHOD BLANK: 1241876 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/26/13 11:59	

LABORATORY CONTROL SAMPLE: 1241877

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241878 1241879

Parameter	Units	60151485001 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	0.86	0.90	17	18	70-130	5	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: MPRP/23989
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151616001

METHOD BLANK: 1242855 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/29/13 15:15	
Antimony	ug/L	ND	10.0	08/29/13 15:15	
Arsenic	ug/L	ND	10.0	08/29/13 15:15	
Beryllium	ug/L	ND	1.0	08/29/13 15:15	
Cadmium	ug/L	ND	5.0	08/29/13 15:15	
Chromium	ug/L	ND	5.0	08/29/13 15:15	
Cobalt	ug/L	ND	5.0	08/29/13 15:15	
Copper	ug/L	ND	10.0	08/29/13 15:15	
Iron	ug/L	ND	50.0	08/29/13 15:15	
Lead	ug/L	ND	5.0	08/29/13 15:15	
Nickel	ug/L	ND	5.0	08/29/13 15:15	
Selenium	ug/L	ND	15.0	08/29/13 15:15	
Silver	ug/L	ND	7.0	08/29/13 15:15	
Thallium	ug/L	ND	20.0	08/29/13 15:15	
Zinc	ug/L	ND	50.0	08/29/13 15:15	

LABORATORY CONTROL SAMPLE: 1242856

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10200	102	85-115	
Antimony	ug/L	1000	976	98	85-115	
Arsenic	ug/L	1000	945	94	85-115	
Beryllium	ug/L	1000	995	99	85-115	
Cadmium	ug/L	1000	964	96	85-115	
Chromium	ug/L	1000	922	92	85-115	
Cobalt	ug/L	1000	965	96	85-115	
Copper	ug/L	1000	950	95	85-115	
Iron	ug/L	10000	9600	96	85-115	
Lead	ug/L	1000	945	94	85-115	
Nickel	ug/L	1000	996	100	85-115	
Selenium	ug/L	1000	987	99	85-115	
Silver	ug/L	500	462	92	85-115	
Thallium	ug/L	1000	987	99	85-115	
Zinc	ug/L	1000	948	95	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1242857 1242858

Parameter	Units	60151557001 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	9940	9630	99	96	70-130	3	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1242857 1242858

Parameter	Units	60151557001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1000	964	100	96	70-130	4	7	
Arsenic	ug/L	ND	1000	1000	966	936	97	94	70-130	3	10	
Beryllium	ug/L	ND	1000	1000	985	954	98	95	70-130	3	7	
Cadmium	ug/L	ND	1000	1000	980	943	98	94	70-130	4	10	
Chromium	ug/L	ND	1000	1000	930	893	93	89	70-130	4	10	
Cobalt	ug/L	ND	1000	1000	974	936	97	94	70-130	4	6	
Copper	ug/L	ND	1000	1000	973	936	97	93	70-130	4	11	
Iron	ug/L	0.065 mg/L	10000	10000	9440	9170	94	91	70-130	3	10	
Lead	ug/L	ND	1000	1000	944	909	94	91	70-130	4	10	
Nickel	ug/L	0.018 mg/L	1000	1000	1020	987	100	97	70-130	3	10	
Selenium	ug/L	ND	1000	1000	1010	977	101	98	70-130	3	10	
Silver	ug/L	ND	500	500	466	445	93	89	70-130	4	10	
Thallium	ug/L	ND	1000	1000	983	947	98	95	70-130	4	6	
Zinc	ug/L	ND	1000	1000	972	937	96	92	70-130	4	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: MPRP/23964
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151616001

METHOD BLANK: 1241871 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/26/13 15:47	
Antimony, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Arsenic, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Beryllium, Dissolved	ug/L	ND	1.0	08/26/13 15:47	
Cadmium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Chromium, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Cobalt, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Copper, Dissolved	ug/L	ND	10.0	08/26/13 15:47	
Iron, Dissolved	ug/L	ND	50.0	08/26/13 15:47	
Lead, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Nickel, Dissolved	ug/L	ND	5.0	08/26/13 15:47	
Selenium, Dissolved	ug/L	ND	15.0	08/26/13 15:47	
Silver, Dissolved	ug/L	ND	7.0	08/26/13 15:47	
Thallium, Dissolved	ug/L	ND	20.0	08/26/13 15:47	
Zinc, Dissolved	ug/L	ND	50.0	08/26/13 15:47	

LABORATORY CONTROL SAMPLE: 1241872

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	9950	100	85-115	
Antimony, Dissolved	ug/L	1000	991	99	85-115	
Arsenic, Dissolved	ug/L	1000	952	95	85-115	
Beryllium, Dissolved	ug/L	1000	1000	100	85-115	
Cadmium, Dissolved	ug/L	1000	979	98	85-115	
Chromium, Dissolved	ug/L	1000	985	98	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	962	96	85-115	
Iron, Dissolved	ug/L	10000	10000	100	85-115	
Lead, Dissolved	ug/L	1000	998	100	85-115	
Nickel, Dissolved	ug/L	1000	1010	101	85-115	
Selenium, Dissolved	ug/L	1000	981	98	85-115	
Silver, Dissolved	ug/L	500	490	98	85-115	
Thallium, Dissolved	ug/L	1000	1000	100	85-115	
Zinc, Dissolved	ug/L	1000	994	99	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	ug/L	ND	10000	10000	9990	9960	100	100	70-130	0	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1241873 1241874

Parameter	Units	60151516002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	ND	1000	1000	1000	999	100	100	70-130	1	7	
Arsenic, Dissolved	ug/L	ND	1000	1000	973	963	97	96	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	1000	996	100	100	70-130	0	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	982	974	98	97	70-130	1	10	
Chromium, Dissolved	ug/L	ND	1000	1000	985	983	98	98	70-130	0	10	
Cobalt, Dissolved	ug/L	ND	1000	1000	984	974	98	97	70-130	1	6	
Copper, Dissolved	ug/L	ND	1000	1000	965	967	96	97	70-130	0	11	
Iron, Dissolved	ug/L	ND	10000	10000	9920	9870	99	99	70-130	0	10	
Lead, Dissolved	ug/L	ND	1000	1000	987	980	99	98	70-130	1	10	
Nickel, Dissolved	ug/L	1.1J	1000	1000	992	984	99	98	70-130	1	10	
Selenium, Dissolved	ug/L	ND	1000	1000	982	977	98	98	70-130	1	10	
Silver, Dissolved	ug/L	ND	500	500	494	490	99	98	70-130	1	10	
Thallium, Dissolved	ug/L	ND	1000	1000	990	981	99	98	70-130	1	6	
Zinc, Dissolved	ug/L	9.8J	1000	1000	991	976	98	97	70-130	2	11	

MATRIX SPIKE SAMPLE: 1241875

Parameter	Units	60151591001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	ND	10000	10100	101	70-130	
Antimony, Dissolved	ug/L	ND	1000	1020	102	70-130	
Arsenic, Dissolved	ug/L	ND	1000	1000	100	70-130	
Beryllium, Dissolved	ug/L	ND	1000	1020	102	70-130	
Cadmium, Dissolved	ug/L	ND	1000	1000	100	70-130	
Chromium, Dissolved	ug/L	ND	1000	968	97	70-130	
Cobalt, Dissolved	ug/L	ND	1000	986	99	70-130	
Copper, Dissolved	ug/L	ND	1000	994	99	70-130	
Iron, Dissolved	ug/L	ND	10000	10100	101	70-130	
Lead, Dissolved	ug/L	ND	1000	954	95	70-130	
Nickel, Dissolved	ug/L	16.3	1000	1010	100	70-130	
Selenium, Dissolved	ug/L	ND	1000	1030	103	70-130	
Silver, Dissolved	ug/L	ND	500	500	100	70-130	
Thallium, Dissolved	ug/L	ND	1000	911	91	70-130	
Zinc, Dissolved	ug/L	ND	1000	1000	99	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: MSV/55839 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151616001, 60151616002

METHOD BLANK: 1242924 Matrix: Water
Associated Lab Samples: 60151616001, 60151616002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: OEXT/40057
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60151616001

METHOD BLANK: 1242185 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/27/13 10:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/27/13 10:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/27/13 10:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/27/13 10:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/27/13 10:51	
Hexachloroethane	ug/L	ND	5.0	08/27/13 10:51	
Naphthalene	ug/L	ND	5.0	08/27/13 10:51	
Nitrobenzene	ug/L	ND	5.0	08/27/13 10:51	
Pentachlorophenol	ug/L	ND	5.0	08/27/13 10:51	
Phenol	ug/L	ND	5.0	08/27/13 10:51	
2,4,6-Tribromophenol (S)	%	85	39-119	08/27/13 10:51	
2-Fluorobiphenyl (S)	%	78	36-120	08/27/13 10:51	
2-Fluorophenol (S)	%	45	18-120	08/27/13 10:51	
Nitrobenzene-d5 (S)	%	77	32-120	08/27/13 10:51	
Phenol-d6 (S)	%	31	12-120	08/27/13 10:51	
Terphenyl-d14 (S)	%	83	44-120	08/27/13 10:51	

LABORATORY CONTROL SAMPLE: 1242186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	44-120	
2,4,6-Trichlorophenol	ug/L	50	40.4	81	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.2	102	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.5	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	60.6	61	31-120	
Hexachloroethane	ug/L	50	38.0	76	40-113	
Naphthalene	ug/L	50	40.5	81	48-120	
Nitrobenzene	ug/L	50	40.7	81	47-120	
Pentachlorophenol	ug/L	50	45.8	92	43-127	
Phenol	ug/L	50	17.8	36	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			79	36-120	
2-Fluorophenol (S)	%			45	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	
Phenol-d6 (S)	%			32	12-120	
Terphenyl-d14 (S)	%			86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

MATRIX SPIKE SAMPLE: 1242188

Parameter	Units	60151534001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.6	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	38.9	78	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	46.6	93	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	34.5	69	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	58.8	59	11-120	
Hexachloroethane	ug/L	ND	50	32.5	65	40-113	
Naphthalene	ug/L	ND	50	37.0	74	32-120	
Nitrobenzene	ug/L	ND	50	36.5	73	35-128	
Pentachlorophenol	ug/L	ND	50	45.6	91	38-133	
Phenol	ug/L	ND	50	15.6	31	13-112	
2,4,6-Tribromophenol (S)	%				85	39-119	
2-Fluorobiphenyl (S)	%				72	36-120	
2-Fluorophenol (S)	%				37	18-120	
Nitrobenzene-d5 (S)	%				71	32-120	
Phenol-d6 (S)	%				27	12-120	
Terphenyl-d14 (S)	%				75	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WET/43154 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151616001

METHOD BLANK: 1244890 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/30/13 06:58	

LABORATORY CONTROL SAMPLE: 1244891

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: 1244894

Parameter	Units	60152046002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	20.4	42.6	62.6	99	78-114	

SAMPLE DUPLICATE: 1244895

Parameter	Units	60151616001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	514	502	2	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WET/43155
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151616001

METHOD BLANK: 1244896 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/30/13 07:05	

LABORATORY CONTROL SAMPLE: 1244897

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.5	108	64-132	

MATRIX SPIKE SAMPLE: 1244901

Parameter	Units	60152015001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	21.1	23.2	107	64-132	

SAMPLE DUPLICATE: 1244902

Parameter	Units	60151616001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	5.6	3.5J		34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WET/43076 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151616001

METHOD BLANK: 1243044 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/27/13 13:35	

SAMPLE DUPLICATE: 1243045

Parameter	Units	60151607001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	91.4	91.4	0	25	

SAMPLE DUPLICATE: 1243046

Parameter	Units	60151598004 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	7.0	7.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151616001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WETA/25930
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151616001

METHOD BLANK: 1242221 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/26/13 10:11	

LABORATORY CONTROL SAMPLE: 1242222

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

MATRIX SPIKE SAMPLE: 1242223

Parameter	Units	60151616001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	718	400	1040	81	90-110	M1

SAMPLE DUPLICATE: 1242224

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	703	696	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

QC Batch: WETA/25952
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60151616001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151616001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

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).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-050
Pace Project No.: 60151616

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151616001	**316-050**	EPA 200.7	MPRP/23989	EPA 200.7	ICP/18766
60151616001	**316-050**	EPA 200.7	MPRP/23964	EPA 200.7	ICP/18749
60151616001	**316-050**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151616001	**316-050**	EPA 245.1	MERP/7638	EPA 245.1	MERC/7592
60151616001	**316-050**	EPA 625	OEXT/40057	EPA 625	MSSV/12697
60151616001	**316-050**	EPA 624 Low	MSV/55839		
60151616002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151616001	**316-050**	EPA 1664A	WET/43154		
60151616001	**316-050**	EPA 1664A	WET/43155		
60151616001	**316-050**	SM 2540D	WET/43076		
60151616001	**316-050**	SM 4500-H+B	WET/43083		
60151616001	**316-050**	EPA 350.1	WETA/25930		
60151616001	**316-050**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO#: 60151616

60151616

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.5

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. PH
Rush Turn Around Time requested:	☐Yes	☒No	☐N/A	7.
Sufficient volume:	☒Yes	☐No	☐N/A	8.
Correct containers used:	☒Yes	☐No	☐N/A	
Pace containers used:	☒Yes	☐No	☐N/A	9.
Containers intact:	☒Yes	☐No	☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☒N/A	11.
Filtered volume received for dissolved tests?	☐Yes	☐No	☒N/A	12.
Sample labels match COC:	☒Yes	☐No	☐N/A	
Includes date/time/ID/analyses Matrix: WT				13.
All containers needing preservation have been checked.	☒Yes	☐No	☐N/A	added 2.5 HNO3 to BP3N PH <2
All containers needing preservation are found to be in compliance with EPA recommendation.	☒Yes	☐No	☐N/A	added 2.0 H2SO4 to BP3S PH <2
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes	☐No		14. Initial when completed: S 2/23/13 Lot # of added preservative: 12510, 12518
Trip Blank present:	☒Yes	☐No	☐N/A	
Pace Trip Blank lot # (if purchased): Aug 19				15.
Headspace in VOA vials (>6mm):	☒Yes	☐No	☐N/A	5 & S
				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: 2/25/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	6015161 6
1	316-050 3(~~BP1U~~ AG1U), 3(~~BP1H~~ AG1H)	OT	G	8/22/13	1345	BP2U, BP3U			13	9	1	1	2	5(DG9H)					X	X	X	X	X	X	X	X	X	X	BP2N, BP2S			METALS LIST total & LF Dis:
2	TRIP BLANK 2(DG9H)								2	2																X						Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Heikes	8-22-13		[illegible] 554	8/22/13	1610				
SITE ADDRESS: BRIDGETON LF				Shadella McKy/PSA	8/23	0100	2.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	John Powell					
SIGNATURE of SAMPLER:	[signature]	DATE Signed: 08-22-13				

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

September 03, 2013

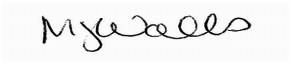
Ed Galbraith
Barr Engineering Company
1001 Diamond Ridge, Ste 1100
Jefferson City, MO 65101

RE: Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

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



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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

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 316-051
Pace Project No.: 60151723

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151723001	**316-051**	Water	08/23/13 10:15	08/24/13 01:15
60151723002	**TRIP BLANK**	Water	08/23/13 08:00	08/24/13 01:15
60151722001	**316-051**	Water	08/23/13 10:15	08/24/13 01:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151723001	**316-051**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151723002	**TRIP BLANK**	EPA 624 Low	JKL	25
60151722001	**316-051**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Sample: 316-051 **Lab ID: 60151723001** Collected: 08/23/13 10:15 Received: 08/24/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6410**	ug/L	150	2	08/27/13 16:20	08/30/13 10:20	7429-90-5	
Antimony	**44.2**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:20	7440-36-0	
Arsenic	**691**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:20	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/27/13 16:20	08/30/13 10:34	7440-41-7	D3
Cadmium	**10.3**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:20	7440-43-9	
Chromium	**218**	ug/L	25.0	5	08/27/13 16:20	08/30/13 10:34	7440-47-3	
Cobalt	**44.2**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:20	7440-48-4	
Copper	ND	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:20	7440-50-8	D3
Iron	**594000**	ug/L	100	2	08/27/13 16:20	08/30/13 10:20	7439-89-6	
Lead	**134**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:20	7439-92-1	
Nickel	**126**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:20	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/27/13 16:20	08/30/13 10:34	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/27/13 16:20	08/30/13 10:20	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/27/13 16:20	08/30/13 10:34	7440-28-0	D3
Zinc	**10500**	ug/L	1000	20	08/27/13 16:20	08/30/13 11:06	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2770**	ug/L	150	2	08/28/13 16:00	08/30/13 11:49	7429-90-5	
Antimony, Dissolved	**37.9**	ug/L	20.0	2	08/28/13 16:00	08/30/13 11:49	7440-36-0	
Arsenic, Dissolved	**640**	ug/L	20.0	2	08/28/13 16:00	08/30/13 11:49	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/28/13 16:00	08/30/13 14:16	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/28/13 16:00	08/30/13 11:49	7440-43-9	D3
Chromium, Dissolved	**194**	ug/L	25.0	5	08/28/13 16:00	08/30/13 14:16	7440-47-3	
Cobalt, Dissolved	**40.5**	ug/L	10.0	2	08/28/13 16:00	08/30/13 11:49	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/28/13 16:00	08/30/13 11:49	7440-50-8	D3
Iron, Dissolved	**431000**	ug/L	100	2	08/28/13 16:00	08/30/13 11:49	7439-89-6	
Lead, Dissolved	**83.0**	ug/L	10.0	2	08/28/13 16:00	08/30/13 11:49	7439-92-1	
Nickel, Dissolved	**120**	ug/L	10.0	2	08/28/13 16:00	08/30/13 11:49	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/28/13 16:00	08/30/13 14:16	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/28/13 16:00	08/30/13 11:49	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/28/13 16:00	08/30/13 14:16	7440-28-0	D3
Zinc, Dissolved	**9230**	ug/L	1000	20	08/28/13 16:00	08/30/13 14:59	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.54**	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:00	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	08/29/13 09:00	08/29/13 12:02	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/26/13 00:00	08/27/13 14:18	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Sample: 316-051 **Lab ID: 60151723001** Collected: 08/23/13 10:15 Received: 08/24/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	87-86-5	
Phenol	**12900**	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/26/13 00:00	08/27/13 14:18	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/26/13 00:00	08/27/13 14:18	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/26/13 00:00	08/27/13 14:18	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/26/13 00:00	08/27/13 14:18	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/26/13 00:00	08/27/13 14:18	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/26/13 00:00	08/27/13 14:18	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/26/13 00:00	08/27/13 14:18	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 15:41	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 15:41	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 15:41	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 15:41	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 15:41	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 15:41	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 15:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 15:41	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 15:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 15:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 15:41	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 15:41	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 15:41	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 15:41	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 15:41	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 15:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 15:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 15:41	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 15:41	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 15:41	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 15:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		08/27/13 15:41	460-00-4	D3
Toluene-d8 (S)	97	%	80-120	200		08/27/13 15:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	102	%	80-120	200		08/27/13 15:41	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 15:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**220**	mg/L	5.0	1		08/26/13 14:35		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**7.0**	mg/L	5.0	1		08/27/13 14:37		D6

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Sample: 316-051 **Lab ID: 60151723001** Collected: 08/23/13 10:15 Received: 08/24/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2640**	mg/L	5.0	1		08/29/13 11:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**703**	mg/L	20.0	200		08/26/13 10:16	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**47800**	mg/L	5000	500		08/28/13 12:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Sample: TRIP BLANK **Lab ID: 60151723002** Collected: 08/23/13 08:00 Received: 08/24/13 01:15 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		08/27/13 13:31	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 13:31	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 13:31	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 13:31	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 13:31	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 13:31	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 13:31	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 13:31	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 13:31	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:31	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 13:31	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 13:31	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 13:31	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 13:31	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 13:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:31	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 13:31	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 13:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 13:31	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/27/13 13:31	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/27/13 13:31	2037-26-5	
1,2-Dichloroethane-d4 (S)	103	%	80-120	1		08/27/13 13:31	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/27/13 13:31		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Sample: 316-051 **Lab ID: 60151722001** Collected: 08/23/13 10:15 Received: 08/24/13 01:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**24300**	mg/L	2.0	1	08/24/13 11:23	08/29/13 17:02		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151723001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: MERP/7652
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151723001

METHOD BLANK: 1243868 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/29/13 11:44	

LABORATORY CONTROL SAMPLE: 1243869

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243870 1243871

Parameter	Units	60151790001 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	0.61	0.68	11	13	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: MPRP/24002
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151723001

METHOD BLANK: 1243147 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/29/13 16:23	
Antimony	ug/L	ND	10.0	08/29/13 16:23	
Arsenic	ug/L	ND	10.0	08/29/13 16:23	
Beryllium	ug/L	ND	1.0	08/29/13 16:23	
Cadmium	ug/L	ND	5.0	08/29/13 16:23	
Chromium	ug/L	ND	5.0	08/29/13 16:23	
Cobalt	ug/L	ND	5.0	08/29/13 16:23	
Copper	ug/L	ND	10.0	08/29/13 16:23	
Iron	ug/L	ND	50.0	08/29/13 16:23	
Lead	ug/L	ND	5.0	08/29/13 16:23	
Nickel	ug/L	ND	5.0	08/29/13 16:23	
Selenium	ug/L	ND	15.0	08/29/13 16:23	
Silver	ug/L	ND	7.0	08/29/13 16:23	
Thallium	ug/L	ND	20.0	08/29/13 16:23	
Zinc	ug/L	ND	50.0	08/29/13 16:23	

LABORATORY CONTROL SAMPLE: 1243148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9810	98	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	964	96	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	986	99	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9140	91	85-115	
Lead	ug/L	1000	963	96	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	467	93	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	969	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9930	100	99	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	986	975	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Chromium	ug/L	ND	1000	1000	928	922	93	92	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	961	951	96	95	70-130	1	6	
Copper	ug/L	ND	1000	1000	1000	987	99	98	70-130	2	11	
Iron	ug/L	ND	10000	10000	9140	9080	91	91	70-130	1	10	
Lead	ug/L	ND	1000	1000	916	908	92	91	70-130	1	10	
Nickel	ug/L	ND	1000	1000	995	987	99	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	476	470	95	94	70-130	1	10	
Thallium	ug/L	ND	1000	1000	916	908	91	91	70-130	1	6	
Zinc	ug/L	ND	1000	1000	998	995	96	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1243151

Parameter	Units	60151450002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	1170	10000	11400	103	70-130	
Antimony	ug/L	ND	1000	1030	102	70-130	
Arsenic	ug/L	ND	1000	1010	100	70-130	
Beryllium	ug/L	ND	1000	970	97	70-130	
Cadmium	ug/L	ND	1000	996	100	70-130	
Chromium	ug/L	ND	1000	911	91	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	87.1	1000	1080	99	70-130	
Iron	ug/L	1640	10000	10800	91	70-130	
Lead	ug/L	5.6	1000	915	91	70-130	
Nickel	ug/L	18.7	1000	1000	98	70-130	
Selenium	ug/L	ND	1000	941	93	70-130	
Silver	ug/L	ND	500	463	93	70-130	
Thallium	ug/L	ND	1000	918	92	70-130	
Zinc	ug/L	102	1000	1060	96	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: MPRP/24028
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151723001

METHOD BLANK: 1243827 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/30/13 11:38	
Antimony, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Arsenic, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Beryllium, Dissolved	ug/L	ND	1.0	08/30/13 11:38	
Cadmium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Chromium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Cobalt, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Copper, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Iron, Dissolved	ug/L	ND	50.0	08/30/13 11:38	
Lead, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Nickel, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Selenium, Dissolved	ug/L	ND	15.0	08/30/13 11:38	
Silver, Dissolved	ug/L	ND	7.0	08/30/13 11:38	
Thallium, Dissolved	ug/L	ND	20.0	08/30/13 11:38	
Zinc, Dissolved	ug/L	ND	50.0	08/30/13 11:38	

LABORATORY CONTROL SAMPLE: 1243828

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	994	99	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	966	97	85-115	
Cadmium, Dissolved	ug/L	1000	970	97	85-115	
Chromium, Dissolved	ug/L	1000	986	99	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	957	96	85-115	
Iron, Dissolved	ug/L	10000	9710	97	85-115	
Lead, Dissolved	ug/L	1000	959	96	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	957	96	85-115	
Silver, Dissolved	ug/L	500	464	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 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	2730	10000	10000	13800	13500	111	108	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	42.9	1000	1000	1040	1010	100	96	70-130	4	7	
Arsenic, Dissolved	ug/L	588	1000	1000	1730	1710	114	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	974	990	97	99	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1120	1100	111	109	70-130	2	10	
Chromium, Dissolved	ug/L	204	1000	1000	1150	1170	95	97	70-130	2	10	
Cobalt, Dissolved	ug/L	41.3	1000	1000	1010	995	97	95	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1040	988	103	99	70-130	5	11	
Iron, Dissolved	ug/L	447000	10000	10000	458000	451000	112	42	70-130	2	10	M1
Lead, Dissolved	ug/L	79.3	1000	1000	947	928	87	85	70-130	2	10	
Nickel, Dissolved	ug/L	123	1000	1000	1080	1060	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1060	109	106	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	56.4	103	10	19	70-130	58	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	832	846	83	85	70-130	2	6	
Zinc, Dissolved	ug/L	10500	1000	1000	12100	12600	156	207	70-130	4	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: MSV/55839 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151723001, 60151723002

METHOD BLANK: 1242924 Matrix: Water
Associated Lab Samples: 60151723001, 60151723002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: OEXT/40057
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60151723001

METHOD BLANK: 1242185
Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/27/13 10:51	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/27/13 10:51	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/27/13 10:51	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/27/13 10:51	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/27/13 10:51	
Hexachloroethane	ug/L	ND	5.0	08/27/13 10:51	
Naphthalene	ug/L	ND	5.0	08/27/13 10:51	
Nitrobenzene	ug/L	ND	5.0	08/27/13 10:51	
Pentachlorophenol	ug/L	ND	5.0	08/27/13 10:51	
Phenol	ug/L	ND	5.0	08/27/13 10:51	
2,4,6-Tribromophenol (S)	%	85	39-119	08/27/13 10:51	
2-Fluorobiphenyl (S)	%	78	36-120	08/27/13 10:51	
2-Fluorophenol (S)	%	45	18-120	08/27/13 10:51	
Nitrobenzene-d5 (S)	%	77	32-120	08/27/13 10:51	
Phenol-d6 (S)	%	31	12-120	08/27/13 10:51	
Terphenyl-d14 (S)	%	83	44-120	08/27/13 10:51	

LABORATORY CONTROL SAMPLE: 1242186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	39.6	79	44-120	
2,4,6-Trichlorophenol	ug/L	50	40.4	81	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	51.2	102	31-147	
Hexachloro-1,3-butadiene	ug/L	50	38.5	77	41-116	
Hexachlorocyclopentadiene	ug/L	100	60.6	61	31-120	
Hexachloroethane	ug/L	50	38.0	76	40-113	
Naphthalene	ug/L	50	40.5	81	48-120	
Nitrobenzene	ug/L	50	40.7	81	47-120	
Pentachlorophenol	ug/L	50	45.8	92	43-127	
Phenol	ug/L	50	17.8	36	15-112	
2,4,6-Tribromophenol (S)	%			89	39-119	
2-Fluorobiphenyl (S)	%			79	36-120	
2-Fluorophenol (S)	%			45	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	
Phenol-d6 (S)	%			32	12-120	
Terphenyl-d14 (S)	%			86	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

MATRIX SPIKE SAMPLE: 1242188

Parameter	Units	60151534001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	35.6	71	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	38.9	78	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	46.6	93	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	34.5	69	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	58.8	59	11-120	
Hexachloroethane	ug/L	ND	50	32.5	65	40-113	
Naphthalene	ug/L	ND	50	37.0	74	32-120	
Nitrobenzene	ug/L	ND	50	36.5	73	35-128	
Pentachlorophenol	ug/L	ND	50	45.6	91	38-133	
Phenol	ug/L	ND	50	15.6	31	13-112	
2,4,6-Tribromophenol (S)	%				85	39-119	
2-Fluorobiphenyl (S)	%				72	36-120	
2-Fluorophenol (S)	%				37	18-120	
Nitrobenzene-d5 (S)	%				71	32-120	
Phenol-d6 (S)	%				27	12-120	
Terphenyl-d14 (S)	%				75	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WET/43064 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151723001

METHOD BLANK: 1242579 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	08/26/13 14:30	

LABORATORY CONTROL SAMPLE: 1242580

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: 1242583

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	274	41.7	307	78	78-114	

SAMPLE DUPLICATE: 1242584

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	220	185	17	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WET/43080 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151723001

METHOD BLANK: 1243173 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	08/27/13 14:32	

LABORATORY CONTROL SAMPLE: 1243174

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	21.2	106	64-132	

MATRIX SPIKE SAMPLE: 1243183

Parameter	Units	60151494001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.7	20.8	22.4	61	64-132	M1

SAMPLE DUPLICATE: 1243184

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	7.0	10.6	41	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WET/43128 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151723001

METHOD BLANK: 1244293 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/29/13 11:05	

SAMPLE DUPLICATE: 1244294

Parameter	Units	60151721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	215	239	11	25	

SAMPLE DUPLICATE: 1244295

Parameter	Units	60151839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	65.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151723001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WET/43047 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151722001

METHOD BLANK: 1241910 Matrix: Water
Associated Lab Samples: 60151722001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/29/13 16:46	

LABORATORY CONTROL SAMPLE: 1241911

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	176	89	85-115	

SAMPLE DUPLICATE: 1241912

Parameter	Units	60151718001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	873	857	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WETA/25930
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151723001

METHOD BLANK: 1242221 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/26/13 10:11	

LABORATORY CONTROL SAMPLE: 1242222

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

MATRIX SPIKE SAMPLE: 1242223

Parameter	Units	60151616001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	718	400	1040	81	90-110	M1

SAMPLE DUPLICATE: 1242224

Parameter	Units	60151723001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	703	696	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

QC Batch: WETA/25952 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151723001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151723001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-051
Pace Project No.: 60151723

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151723001	**316-051**	EPA 200.7	MPRP/24002	EPA 200.7	ICP/18773
60151723001	**316-051**	EPA 200.7	MPRP/24028	EPA 200.7	ICP/18782
60151723001	**316-051**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151723001	**316-051**	EPA 245.1	MERP/7652	EPA 245.1	MERC/7607
60151723001	**316-051**	EPA 625	OEXT/40057	EPA 625	MSSV/12697
60151723001	**316-051**	EPA 624 Low	MSV/55839		
60151723002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151723001	**316-051**	EPA 1664A	WET/43064		
60151723001	**316-051**	EPA 1664A	WET/43080		
60151723001	**316-051**	SM 2540D	WET/43128		
60151723001	**316-051**	SM 4500-H+B	WET/43083		
60151722001	**316-051**	SM 5210B	WET/43047	SM 5210B	WET/43144
60151723001	**316-051**	EPA 350.1	WETA/25930		
60151723001	**316-051**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO#: 60151723

60151723

Optional
Proj Due Date:
Proj Name:

Client Name: Barr

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

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

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

Packing Material: Bubble Wrap ☐ Bubble Bags ☑ Foam ☑ None ☐ Other ☑ 2 PU

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: PV 8/24/13

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	Added 2.5 of HNO3 to BP3N. pH 6.0/4.0
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	Added 2.0 of H2SO4 to BP3C. pH 6.0/3.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	14. Initial when completed: PV Lot # of added preservative: 12510 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): 071513-3		15.
Headspace in VOA vials (>6mm):	☐Yes ☑No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/26/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664		Residual Chlorine (Y/N)	
1	316-051 1BP3U 1BP2U 1BP3S 3-0 2DG,9U	OT	G	8/23/13	1215	1BP3M	4-0		13	9	1	1	2	5DG9U		3HG/H		X	X	X	X	X	X	X	X	X	X	3AG1U		METALS LIST total & LF Dis: 001
2	TRIP BLANK								2	2															X				Al,Sb,As,Be,Cd,Cr, 002
3																													Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																													and Mercury
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Col51723

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299		8-23-13	1616		8/23/13	1616
SITE ADDRESS: BRIDGETON LF				PACE	8/24/13	0115
13570 ST. CHARLES ROCK RD						
BRIDGETON MO 63044						

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1-9	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-23-13

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

September 03, 2013

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

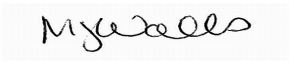
RE: Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Dear Ed Galbraith:

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



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

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

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 316-052
Pace Project No.: 60151787

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151787001	**316-052**	Water	08/24/13 15:40	08/26/13 13:15
60151787002	**TRIP BLANK**	Water	08/24/13 08:00	08/26/13 13:15
60151786001	**316-052**	Water	08/24/13 15:40	08/26/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151787001	**316-052**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151787002	**TRIP BLANK**	EPA 624 Low	JKL	25
60151786001	**316-052**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Sample: 316-052 **Lab ID: 60151787001** Collected: 08/24/13 15:40 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**4580**	ug/L	150	2	08/27/13 16:20	08/30/13 10:23	7429-90-5	
Antimony	**47.3**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:23	7440-36-0	
Arsenic	**718**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:23	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/27/13 16:20	08/30/13 10:37	7440-41-7	D3
Cadmium	**10.6**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:23	7440-43-9	
Chromium	**240**	ug/L	25.0	5	08/27/13 16:20	08/30/13 10:37	7440-47-3	
Cobalt	**53.9**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:23	7440-48-4	
Copper	ND	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:23	7440-50-8	D3
Iron	**653000**	ug/L	100	2	08/27/13 16:20	08/30/13 10:23	7439-89-6	
Lead	**126**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:23	7439-92-1	
Nickel	**141**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:23	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/27/13 16:20	08/30/13 10:37	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/27/13 16:20	08/30/13 10:23	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/27/13 16:20	08/30/13 10:37	7440-28-0	D3
Zinc	**11600**	ug/L	1000	20	08/27/13 16:20	08/30/13 11:09	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2790**	ug/L	150	2	08/28/13 16:00	08/30/13 12:06	7429-90-5	
Antimony, Dissolved	**42.0**	ug/L	20.0	2	08/28/13 16:00	08/30/13 12:06	7440-36-0	
Arsenic, Dissolved	**631**	ug/L	20.0	2	08/28/13 16:00	08/30/13 12:06	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/28/13 16:00	08/30/13 14:45	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/28/13 16:00	08/30/13 12:06	7440-43-9	D3
Chromium, Dissolved	**204**	ug/L	25.0	5	08/28/13 16:00	08/30/13 14:45	7440-47-3	
Cobalt, Dissolved	**47.3**	ug/L	10.0	2	08/28/13 16:00	08/30/13 12:06	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/28/13 16:00	08/30/13 12:06	7440-50-8	D3
Iron, Dissolved	**424000**	ug/L	100	2	08/28/13 16:00	08/30/13 12:06	7439-89-6	
Lead, Dissolved	**73.7**	ug/L	10.0	2	08/28/13 16:00	08/30/13 12:06	7439-92-1	
Nickel, Dissolved	**130**	ug/L	10.0	2	08/28/13 16:00	08/30/13 12:06	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/28/13 16:00	08/30/13 14:45	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/28/13 16:00	08/30/13 12:06	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/28/13 16:00	08/30/13 14:45	7440-28-0	D3
Zinc, Dissolved	**10100**	ug/L	1000	20	08/28/13 16:00	08/30/13 15:27	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:02	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	08/29/13 09:00	08/29/13 12:04	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/28/13 00:00	08/29/13 11:28	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Sample: 316-052 **Lab ID: 60151787001** Collected: 08/24/13 15:40 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	87-86-5	
Phenol	**7370**	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:28	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/28/13 00:00	08/29/13 11:28	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/28/13 00:00	08/29/13 11:28	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/28/13 00:00	08/29/13 11:28	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/28/13 00:00	08/29/13 11:28	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/28/13 00:00	08/29/13 11:28	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/28/13 00:00	08/29/13 11:28	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 16:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 16:02	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 16:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 16:02	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 16:02	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 16:02	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 16:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 16:02	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 16:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 16:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 16:02	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 16:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 16:02	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 16:02	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 16:02	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 16:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 16:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 16:02	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 16:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 16:02	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 16:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		08/27/13 16:02	460-00-4	D3,HS
Toluene-d8 (S)	97	%	80-120	200		08/27/13 16:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		08/27/13 16:02	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 16:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**340**	mg/L	5.0	1		09/03/13 07:46		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**14.4**	mg/L	5.0	1		09/03/13 07:40		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Sample: 316-052 **Lab ID: 60151787001** Collected: 08/24/13 15:40 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2600**	mg/L	5.0	1		08/29/13 11:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**756**	mg/L	20.0	200		08/28/13 11:14	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**53400**	mg/L	5000	500		08/28/13 12:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Sample: TRIP BLANK **Lab ID: 60151787002** Collected: 08/24/13 08:00 Received: 08/26/13 13:15 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		08/27/13 13:52	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 13:52	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 13:52	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 13:52	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 13:52	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 13:52	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 13:52	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 13:52	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 13:52	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 13:52	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 13:52	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 13:52	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 13:52	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 13:52	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 13:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 13:52	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 13:52	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 13:52	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 13:52	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/27/13 13:52	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/27/13 13:52	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	1		08/27/13 13:52	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/27/13 13:52		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Sample: 316-052 **Lab ID: 60151786001** Collected: 08/24/13 15:40 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**26800**	mg/L	2.0	1	08/26/13 15:03	08/31/13 10:51		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151787001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: MERP/7652
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151787001

METHOD BLANK: 1243868 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/29/13 11:44	

LABORATORY CONTROL SAMPLE: 1243869

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243870 1243871

Parameter	Units	60151790001 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	0.61	0.68	11	13	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: MPRP/24002
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151787001

METHOD BLANK: 1243147 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/29/13 16:23	
Antimony	ug/L	ND	10.0	08/29/13 16:23	
Arsenic	ug/L	ND	10.0	08/29/13 16:23	
Beryllium	ug/L	ND	1.0	08/29/13 16:23	
Cadmium	ug/L	ND	5.0	08/29/13 16:23	
Chromium	ug/L	ND	5.0	08/29/13 16:23	
Cobalt	ug/L	ND	5.0	08/29/13 16:23	
Copper	ug/L	ND	10.0	08/29/13 16:23	
Iron	ug/L	ND	50.0	08/29/13 16:23	
Lead	ug/L	ND	5.0	08/29/13 16:23	
Nickel	ug/L	ND	5.0	08/29/13 16:23	
Selenium	ug/L	ND	15.0	08/29/13 16:23	
Silver	ug/L	ND	7.0	08/29/13 16:23	
Thallium	ug/L	ND	20.0	08/29/13 16:23	
Zinc	ug/L	ND	50.0	08/29/13 16:23	

LABORATORY CONTROL SAMPLE: 1243148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9810	98	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	964	96	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	986	99	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9140	91	85-115	
Lead	ug/L	1000	963	96	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	467	93	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	969	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9930	100	99	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	986	975	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Chromium	ug/L	ND	1000	1000	928	922	93	92	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	961	951	96	95	70-130	1	6	
Copper	ug/L	ND	1000	1000	1000	987	99	98	70-130	2	11	
Iron	ug/L	ND	10000	10000	9140	9080	91	91	70-130	1	10	
Lead	ug/L	ND	1000	1000	916	908	92	91	70-130	1	10	
Nickel	ug/L	ND	1000	1000	995	987	99	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	476	470	95	94	70-130	1	10	
Thallium	ug/L	ND	1000	1000	916	908	91	91	70-130	1	6	
Zinc	ug/L	ND	1000	1000	998	995	96	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1243151

Parameter	Units	60151450002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	1170	10000	11400	103	70-130	
Antimony	ug/L	ND	1000	1030	102	70-130	
Arsenic	ug/L	ND	1000	1010	100	70-130	
Beryllium	ug/L	ND	1000	970	97	70-130	
Cadmium	ug/L	ND	1000	996	100	70-130	
Chromium	ug/L	ND	1000	911	91	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	87.1	1000	1080	99	70-130	
Iron	ug/L	1640	10000	10800	91	70-130	
Lead	ug/L	5.6	1000	915	91	70-130	
Nickel	ug/L	18.7	1000	1000	98	70-130	
Selenium	ug/L	ND	1000	941	93	70-130	
Silver	ug/L	ND	500	463	93	70-130	
Thallium	ug/L	ND	1000	918	92	70-130	
Zinc	ug/L	102	1000	1060	96	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: MPRP/24028
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151787001

METHOD BLANK: 1243827 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/30/13 11:38	
Antimony, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Arsenic, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Beryllium, Dissolved	ug/L	ND	1.0	08/30/13 11:38	
Cadmium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Chromium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Cobalt, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Copper, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Iron, Dissolved	ug/L	ND	50.0	08/30/13 11:38	
Lead, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Nickel, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Selenium, Dissolved	ug/L	ND	15.0	08/30/13 11:38	
Silver, Dissolved	ug/L	ND	7.0	08/30/13 11:38	
Thallium, Dissolved	ug/L	ND	20.0	08/30/13 11:38	
Zinc, Dissolved	ug/L	ND	50.0	08/30/13 11:38	

LABORATORY CONTROL SAMPLE: 1243828

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	994	99	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	966	97	85-115	
Cadmium, Dissolved	ug/L	1000	970	97	85-115	
Chromium, Dissolved	ug/L	1000	986	99	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	957	96	85-115	
Iron, Dissolved	ug/L	10000	9710	97	85-115	
Lead, Dissolved	ug/L	1000	959	96	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	957	96	85-115	
Silver, Dissolved	ug/L	500	464	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 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	2730	10000	10000	13800	13500	111	108	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	42.9	1000	1000	1040	1010	100	96	70-130	4	7	
Arsenic, Dissolved	ug/L	588	1000	1000	1730	1710	114	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	974	990	97	99	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1120	1100	111	109	70-130	2	10	
Chromium, Dissolved	ug/L	204	1000	1000	1150	1170	95	97	70-130	2	10	
Cobalt, Dissolved	ug/L	41.3	1000	1000	1010	995	97	95	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1040	988	103	99	70-130	5	11	
Iron, Dissolved	ug/L	447000	10000	10000	458000	451000	112	42	70-130	2	10	M1
Lead, Dissolved	ug/L	79.3	1000	1000	947	928	87	85	70-130	2	10	
Nickel, Dissolved	ug/L	123	1000	1000	1080	1060	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1060	109	106	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	56.4	103	10	19	70-130	58	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	832	846	83	85	70-130	2	6	
Zinc, Dissolved	ug/L	10500	1000	1000	12100	12600	156	207	70-130	4	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: MSV/55839 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151787001, 60151787002

METHOD BLANK: 1242924 Matrix: Water
Associated Lab Samples: 60151787001, 60151787002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: OEXT/40115 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151787001

METHOD BLANK: 1243299 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/29/13 09:23	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/29/13 09:23	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachloroethane	ug/L	ND	5.0	08/29/13 09:23	
Naphthalene	ug/L	ND	5.0	08/29/13 09:23	
Nitrobenzene	ug/L	ND	5.0	08/29/13 09:23	
Pentachlorophenol	ug/L	ND	5.0	08/29/13 09:23	
Phenol	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Tribromophenol (S)	%	107	39-119	08/29/13 09:23	
2-Fluorobiphenyl (S)	%	96	36-120	08/29/13 09:23	
2-Fluorophenol (S)	%	55	18-120	08/29/13 09:23	
Nitrobenzene-d5 (S)	%	95	32-120	08/29/13 09:23	
Phenol-d6 (S)	%	37	12-120	08/29/13 09:23	
Terphenyl-d14 (S)	%	103	44-120	08/29/13 09:23	

LABORATORY CONTROL SAMPLE: 1243300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.4	87	44-120	
2,4,6-Trichlorophenol	ug/L	50	48.0	96	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	61.1	122	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.9	82	41-116	
Hexachlorocyclopentadiene	ug/L	100	63.0	63	31-120	
Hexachloroethane	ug/L	50	42.3	85	40-113	
Naphthalene	ug/L	50	45.6	91	48-120	
Nitrobenzene	ug/L	50	45.9	92	47-120	
Pentachlorophenol	ug/L	50	56.2	112	43-127	
Phenol	ug/L	50	21.0	42	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			89	36-120	
2-Fluorophenol (S)	%			54	18-120	
Nitrobenzene-d5 (S)	%			87	32-120	M4
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			93	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

MATRIX SPIKE SAMPLE: 1243301

Parameter	Units	60151663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	45.2	90	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	48.4	97	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	55.3	111	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	44.8	90	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	75.7	76	11-120	
Hexachloroethane	ug/L	ND	50	42.9	86	40-113	
Naphthalene	ug/L	ND	50	47.3	95	32-120	
Nitrobenzene	ug/L	ND	50	49.9	100	35-128	
Pentachlorophenol	ug/L	ND	50	60.5	121	38-133	
Phenol	ug/L	ND	50	18.0	36	13-112	
2,4,6-Tribromophenol (S)	%				95	39-119	
2-Fluorobiphenyl (S)	%				94	36-120	
2-Fluorophenol (S)	%				49	18-120	
Nitrobenzene-d5 (S)	%				87	32-120	
Phenol-d6 (S)	%				32	12-120	
Terphenyl-d14 (S)	%				94	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WET/43185
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151787001

METHOD BLANK: 1246408 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 07:43	

LABORATORY CONTROL SAMPLE: 1246409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.9	105	78-114	

MATRIX SPIKE SAMPLE: 1246412

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	493	40	563	175	78-114	M1

SAMPLE DUPLICATE: 1246413

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	340	296	14	18	

SAMPLE DUPLICATE: 1246414

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	484	456	6	18	

SAMPLE DUPLICATE: 1246415

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	472	506	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WET/43184
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151787001

METHOD BLANK: 1246404 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/03/13 07:38	

LABORATORY CONTROL SAMPLE: 1246405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.6	103	64-132	

MATRIX SPIKE SAMPLE: 1246406

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.5	20	30.1	73	64-132	

SAMPLE DUPLICATE: 1246444

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.4	7	34	

SAMPLE DUPLICATE: 1246445

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.6	7.8	16	34	

SAMPLE DUPLICATE: 1246446

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	6.0	43	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WET/43128
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151787001

METHOD BLANK: 1244293 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/29/13 11:05	

SAMPLE DUPLICATE: 1244294

Parameter	Units	60151721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	215	239	11	25	

SAMPLE DUPLICATE: 1244295

Parameter	Units	60151839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	65.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151787001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WET/43063 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151786001

METHOD BLANK: 1242563 Matrix: Water
Associated Lab Samples: 60151786001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/31/13 10:48	

LABORATORY CONTROL SAMPLE: 1242564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1242565

Parameter	Units	60151786001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	31800	17	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WETA/25964 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151787001

METHOD BLANK: 1243238 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/28/13 11:10	

LABORATORY CONTROL SAMPLE: 1243239

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

MATRIX SPIKE SAMPLE: 1243240

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	777	400	1140	91	90-110	

SAMPLE DUPLICATE: 1243241

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	821	817	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

QC Batch: WETA/25952 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151787001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151787001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-052
Pace Project No.: 60151787

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151787001	**316-052**	EPA 200.7	MPRP/24002	EPA 200.7	ICP/18773
60151787001	**316-052**	EPA 200.7	MPRP/24028	EPA 200.7	ICP/18782
60151787001	**316-052**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151787001	**316-052**	EPA 245.1	MERP/7652	EPA 245.1	MERC/7607
60151787001	**316-052**	EPA 625	OEXT/40115	EPA 625	MSSV/12709
60151787001	**316-052**	EPA 624 Low	MSV/55839		
60151787002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151787001	**316-052**	EPA 1664A	WET/43185		
60151787001	**316-052**	EPA 1664A	WET/43184		
60151787001	**316-052**	SM 2540D	WET/43128		
60151787001	**316-052**	SM 4500-H+B	WET/43083		
60151786001	**316-052**	SM 5210B	WET/43063	SM 5210B	WET/43177
60151787001	**316-052**	EPA 350.1	WETA/25964		
60151787001	**316-052**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO#: 60151787

60151787

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.5

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8/26/13 1330

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☑N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: water	☑Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3N + BP3S - Samples unable to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative 12500-1-3
Trip Blank present: Pace Trip Blank lot # (if purchased): covered	☒Yes ☐No ☐N/A	15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	all sample vials have headspace 16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: _____

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60151767
1	316-052	OT	G	8/24/13	15:40				3	10	1	1	3					X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis
2	TRIP BLANK								2	2																X		2 (VOA)			Al,Sb,As,Be,Cd,Cr,
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

3(A,E,U) 3(A,E,U) 1(B,N) 5(D,N) 1(B,P,U) 1(B,S,U)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Dan Feezor/Feezor	8/24/13	0910	Bill Stone 412	8/26/13	9:10				
SITE ADDRESS: BRIDGETON LF				Dave	8/26/13	1315	1.5	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	Dan Feezor		TEMP in C	Received on Ice (Y/N)
SIGNATURE of SAMPLER:		DATE Signed: 8/24/13	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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Lenexa, KS 66219
(913)599-5665

September 06, 2013

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

RE: Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 September 5th to correct sample collection date for the Trip Blank.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

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 316-053
Pace Project No.: 60151790

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151790001	**316-053**	Water	08/25/13 11:15	08/26/13 13:15
60151790002	**TRIP BLANK**	Water	08/25/13 00:00	08/26/13 13:15
60151789001	**316-053**	Water	08/25/13 11:15	08/26/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151790001	**316-053**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151790002	**TRIP BLANK**	EPA 624 Low	JKL	25
60151789001	**316-053**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Sample: 316-053 **Lab ID: 60151790001** Collected: 08/25/13 11:15 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5120**	ug/L	150	2	08/27/13 16:20	08/30/13 10:27	7429-90-5	
Antimony	**44.9**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:27	7440-36-0	
Arsenic	**671**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:27	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/27/13 16:20	08/30/13 10:59	7440-41-7	D3
Cadmium	**11.1**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:27	7440-43-9	
Chromium	**250**	ug/L	25.0	5	08/27/13 16:20	08/30/13 10:59	7440-47-3	
Cobalt	**52.9**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:27	7440-48-4	
Copper	ND	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:27	7440-50-8	D3
Iron	**672000**	ug/L	100	2	08/27/13 16:20	08/30/13 10:27	7439-89-6	
Lead	**133**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:27	7439-92-1	
Nickel	**138**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:27	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/27/13 16:20	08/30/13 10:59	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/27/13 16:20	08/30/13 10:27	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/27/13 16:20	08/30/13 10:59	7440-28-0	D3
Zinc	**12800**	ug/L	1000	20	08/27/13 16:20	08/30/13 11:12	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2730**	ug/L	150	2	08/28/13 16:00	08/30/13 14:05	7429-90-5	
Antimony, Dissolved	**42.9**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:05	7440-36-0	
Arsenic, Dissolved	**588**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:05	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/28/13 16:00	08/30/13 14:48	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:05	7440-43-9	D3
Chromium, Dissolved	**204**	ug/L	25.0	5	08/28/13 16:00	08/30/13 14:48	7440-47-3	
Cobalt, Dissolved	**41.3**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:05	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:05	7440-50-8	D3
Iron, Dissolved	**447000**	ug/L	100	2	08/28/13 16:00	08/30/13 14:05	7439-89-6	M1
Lead, Dissolved	**79.3**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:05	7439-92-1	
Nickel, Dissolved	**123**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:05	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/28/13 16:00	08/30/13 14:48	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/28/13 16:00	08/30/13 14:05	7440-22-4	D3,M1, R1
Thallium, Dissolved	ND	ug/L	100	5	08/28/13 16:00	08/30/13 14:48	7440-28-0	D3
Zinc, Dissolved	**10500**	ug/L	1000	20	08/28/13 16:00	08/30/13 15:30	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/29/13 16:35	08/30/13 08:53	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	08/29/13 09:00	08/29/13 11:55	7439-97-6	M1
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/28/13 00:00	08/29/13 11:49	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	91-20-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Sample: 316-053 **Lab ID: 60151790001** Collected: 08/25/13 11:15 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Nitrobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	98-95-3	
Pentachlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	87-86-5	
Phenol	**4180**	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 11:49	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/28/13 00:00	08/29/13 11:49	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/28/13 00:00	08/29/13 11:49	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/28/13 00:00	08/29/13 11:49	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/28/13 00:00	08/29/13 11:49	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/28/13 00:00	08/29/13 11:49	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/28/13 00:00	08/29/13 11:49	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 16:23	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 16:23	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 16:23	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 16:23	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 16:23	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 16:23	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 16:23	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 16:23	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 16:23	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 16:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 16:23	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 16:23	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 16:23	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 16:23	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 16:23	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 16:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 16:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 16:23	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 16:23	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 16:23	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 16:23	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		08/27/13 16:23	460-00-4	D3,HS
Toluene-d8 (S)	95	%	80-120	200		08/27/13 16:23	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		08/27/13 16:23	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 16:23		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**493**	mg/L	5.0	1		09/03/13 07:47		M1
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**15.5**	mg/L	5.0	1		09/03/13 07:39		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Sample: 316-053 **Lab ID: 60151790001** Collected: 08/25/13 11:15 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**4060**	mg/L	5.0	1		08/29/13 11:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**777**	mg/L	20.0	200		08/28/13 11:12	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**49700**	mg/L	5000	500		08/28/13 12:14		M1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Sample: TRIP BLANK **Lab ID: 60151790002** Collected: 08/25/13 00:00 Received: 08/26/13 13:15 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		08/27/13 14:14	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 14:14	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 14:14	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 14:14	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 14:14	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 14:14	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 14:14	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 14:14	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 14:14	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 14:14	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 14:14	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 14:14	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 14:14	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 14:14	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 14:14	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 14:14	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 14:14	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 14:14	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 14:14	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 14:14	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 14:14	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/27/13 14:14	460-00-4	
Toluene-d8 (S)	96	%	80-120	1		08/27/13 14:14	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		08/27/13 14:14	17060-07-0	
Preservation pH	**5.0**		1.0	1		08/27/13 14:14		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Sample: 316-053 **Lab ID: 60151789001** Collected: 08/25/13 11:15 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**36500**	mg/L	2.0	1	08/26/13 15:24	08/31/13 10:56		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151790001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: MERP/7652
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151790001

METHOD BLANK: 1243868 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/29/13 11:44	

LABORATORY CONTROL SAMPLE: 1243869

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243870 1243871

Parameter	Units	60151790001 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	0.61	0.68	11	13	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: MPRP/24002
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151790001

METHOD BLANK: 1243147 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/29/13 16:23	
Antimony	ug/L	ND	10.0	08/29/13 16:23	
Arsenic	ug/L	ND	10.0	08/29/13 16:23	
Beryllium	ug/L	ND	1.0	08/29/13 16:23	
Cadmium	ug/L	ND	5.0	08/29/13 16:23	
Chromium	ug/L	ND	5.0	08/29/13 16:23	
Cobalt	ug/L	ND	5.0	08/29/13 16:23	
Copper	ug/L	ND	10.0	08/29/13 16:23	
Iron	ug/L	ND	50.0	08/29/13 16:23	
Lead	ug/L	ND	5.0	08/29/13 16:23	
Nickel	ug/L	ND	5.0	08/29/13 16:23	
Selenium	ug/L	ND	15.0	08/29/13 16:23	
Silver	ug/L	ND	7.0	08/29/13 16:23	
Thallium	ug/L	ND	20.0	08/29/13 16:23	
Zinc	ug/L	ND	50.0	08/29/13 16:23	

LABORATORY CONTROL SAMPLE: 1243148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9810	98	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	964	96	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	986	99	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9140	91	85-115	
Lead	ug/L	1000	963	96	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	467	93	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	969	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9930	100	99	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	986	975	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Chromium	ug/L	ND	1000	1000	928	922	93	92	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	961	951	96	95	70-130	1	6	
Copper	ug/L	ND	1000	1000	1000	987	99	98	70-130	2	11	
Iron	ug/L	ND	10000	10000	9140	9080	91	91	70-130	1	10	
Lead	ug/L	ND	1000	1000	916	908	92	91	70-130	1	10	
Nickel	ug/L	ND	1000	1000	995	987	99	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	476	470	95	94	70-130	1	10	
Thallium	ug/L	ND	1000	1000	916	908	91	91	70-130	1	6	
Zinc	ug/L	ND	1000	1000	998	995	96	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1243151

Parameter	Units	60151450002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	1170	10000	11400	103	70-130	
Antimony	ug/L	ND	1000	1030	102	70-130	
Arsenic	ug/L	ND	1000	1010	100	70-130	
Beryllium	ug/L	ND	1000	970	97	70-130	
Cadmium	ug/L	ND	1000	996	100	70-130	
Chromium	ug/L	ND	1000	911	91	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	87.1	1000	1080	99	70-130	
Iron	ug/L	1640	10000	10800	91	70-130	
Lead	ug/L	5.6	1000	915	91	70-130	
Nickel	ug/L	18.7	1000	1000	98	70-130	
Selenium	ug/L	ND	1000	941	93	70-130	
Silver	ug/L	ND	500	463	93	70-130	
Thallium	ug/L	ND	1000	918	92	70-130	
Zinc	ug/L	102	1000	1060	96	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: MPRP/24028
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151790001

METHOD BLANK: 1243827 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/30/13 11:38	
Antimony, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Arsenic, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Beryllium, Dissolved	ug/L	ND	1.0	08/30/13 11:38	
Cadmium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Chromium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Cobalt, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Copper, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Iron, Dissolved	ug/L	ND	50.0	08/30/13 11:38	
Lead, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Nickel, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Selenium, Dissolved	ug/L	ND	15.0	08/30/13 11:38	
Silver, Dissolved	ug/L	ND	7.0	08/30/13 11:38	
Thallium, Dissolved	ug/L	ND	20.0	08/30/13 11:38	
Zinc, Dissolved	ug/L	ND	50.0	08/30/13 11:38	

LABORATORY CONTROL SAMPLE: 1243828

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	994	99	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	966	97	85-115	
Cadmium, Dissolved	ug/L	1000	970	97	85-115	
Chromium, Dissolved	ug/L	1000	986	99	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	957	96	85-115	
Iron, Dissolved	ug/L	10000	9710	97	85-115	
Lead, Dissolved	ug/L	1000	959	96	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	957	96	85-115	
Silver, Dissolved	ug/L	500	464	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 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	2730	10000	10000	13800	13500	111	108	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	42.9	1000	1000	1040	1010	100	96	70-130	4	7	
Arsenic, Dissolved	ug/L	588	1000	1000	1730	1710	114	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	974	990	97	99	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1120	1100	111	109	70-130	2	10	
Chromium, Dissolved	ug/L	204	1000	1000	1150	1170	95	97	70-130	2	10	
Cobalt, Dissolved	ug/L	41.3	1000	1000	1010	995	97	95	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1040	988	103	99	70-130	5	11	
Iron, Dissolved	ug/L	447000	10000	10000	458000	451000	112	42	70-130	2	10	M1
Lead, Dissolved	ug/L	79.3	1000	1000	947	928	87	85	70-130	2	10	
Nickel, Dissolved	ug/L	123	1000	1000	1080	1060	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1060	109	106	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	56.4	103	10	19	70-130	58	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	832	846	83	85	70-130	2	6	
Zinc, Dissolved	ug/L	10500	1000	1000	12100	12600	156	207	70-130	4	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: MSV/55839
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60151790001, 60151790002

METHOD BLANK: 1242924
Matrix: Water
Associated Lab Samples: 60151790001, 60151790002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: OEXT/40115 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151790001

METHOD BLANK: 1243299 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/29/13 09:23	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/29/13 09:23	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachloroethane	ug/L	ND	5.0	08/29/13 09:23	
Naphthalene	ug/L	ND	5.0	08/29/13 09:23	
Nitrobenzene	ug/L	ND	5.0	08/29/13 09:23	
Pentachlorophenol	ug/L	ND	5.0	08/29/13 09:23	
Phenol	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Tribromophenol (S)	%	107	39-119	08/29/13 09:23	
2-Fluorobiphenyl (S)	%	96	36-120	08/29/13 09:23	
2-Fluorophenol (S)	%	55	18-120	08/29/13 09:23	
Nitrobenzene-d5 (S)	%	95	32-120	08/29/13 09:23	
Phenol-d6 (S)	%	37	12-120	08/29/13 09:23	
Terphenyl-d14 (S)	%	103	44-120	08/29/13 09:23	

LABORATORY CONTROL SAMPLE: 1243300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.4	87	44-120	
2,4,6-Trichlorophenol	ug/L	50	48.0	96	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	61.1	122	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.9	82	41-116	
Hexachlorocyclopentadiene	ug/L	100	63.0	63	31-120	
Hexachloroethane	ug/L	50	42.3	85	40-113	
Naphthalene	ug/L	50	45.6	91	48-120	
Nitrobenzene	ug/L	50	45.9	92	47-120	
Pentachlorophenol	ug/L	50	56.2	112	43-127	
Phenol	ug/L	50	21.0	42	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			89	36-120	
2-Fluorophenol (S)	%			54	18-120	
Nitrobenzene-d5 (S)	%			87	32-120	M4
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			93	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

MATRIX SPIKE SAMPLE: 1243301

Parameter	Units	60151663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	45.2	90	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	48.4	97	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	55.3	111	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	44.8	90	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	75.7	76	11-120	
Hexachloroethane	ug/L	ND	50	42.9	86	40-113	
Naphthalene	ug/L	ND	50	47.3	95	32-120	
Nitrobenzene	ug/L	ND	50	49.9	100	35-128	
Pentachlorophenol	ug/L	ND	50	60.5	121	38-133	
Phenol	ug/L	ND	50	18.0	36	13-112	
2,4,6-Tribromophenol (S)	%				95	39-119	
2-Fluorobiphenyl (S)	%				94	36-120	
2-Fluorophenol (S)	%				49	18-120	
Nitrobenzene-d5 (S)	%				87	32-120	
Phenol-d6 (S)	%				32	12-120	
Terphenyl-d14 (S)	%				94	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WET/43185
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151790001

METHOD BLANK: 1246408 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 07:43	

LABORATORY CONTROL SAMPLE: 1246409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.9	105	78-114	

MATRIX SPIKE SAMPLE: 1246412

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	493	40	563	175	78-114	M1

SAMPLE DUPLICATE: 1246413

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	340	296	14	18	

SAMPLE DUPLICATE: 1246414

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	484	456	6	18	

SAMPLE DUPLICATE: 1246415

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	472	506	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WET/43184
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151790001

METHOD BLANK: 1246404 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/03/13 07:38	

LABORATORY CONTROL SAMPLE: 1246405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.6	103	64-132	

MATRIX SPIKE SAMPLE: 1246406

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.5	20	30.1	73	64-132	

SAMPLE DUPLICATE: 1246444

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.4	7	34	

SAMPLE DUPLICATE: 1246445

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.6	7.8	16	34	

SAMPLE DUPLICATE: 1246446

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	6.0	43	34	D6

REPORT OF LABORATORY ANALYSIS

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(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WET/43128 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151790001

METHOD BLANK: 1244293 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/29/13 11:05	

SAMPLE DUPLICATE: 1244294

Parameter	Units	60151721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	215	239	11	25	

SAMPLE DUPLICATE: 1244295

Parameter	Units	60151839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	65.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151790001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WET/43063
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151789001

METHOD BLANK: 1242563 Matrix: Water
Associated Lab Samples: 60151789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/31/13 10:48	

LABORATORY CONTROL SAMPLE: 1242564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1242565

Parameter	Units	60151786001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	31800	17	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WETA/25964
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151790001

METHOD BLANK: 1243238 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/28/13 11:10	

LABORATORY CONTROL SAMPLE: 1243239

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

MATRIX SPIKE SAMPLE: 1243240

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	777	400	1140	91	90-110	

SAMPLE DUPLICATE: 1243241

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	821	817	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

QC Batch: WETA/25952 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151790001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151790001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-053
Pace Project No.: 60151790

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151790001	**316-053**	EPA 200.7	MPRP/24002	EPA 200.7	ICP/18773
60151790001	**316-053**	EPA 200.7	MPRP/24028	EPA 200.7	ICP/18782
60151790001	**316-053**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151790001	**316-053**	EPA 245.1	MERP/7652	EPA 245.1	MERC/7607
60151790001	**316-053**	EPA 625	OEXT/40115	EPA 625	MSSV/12709
60151790001	**316-053**	EPA 624 Low	MSV/55839		
60151790002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151790001	**316-053**	EPA 1664A	WET/43185		
60151790001	**316-053**	EPA 1664A	WET/43184		
60151790001	**316-053**	SM 2540D	WET/43128		
60151790001	**316-053**	SM 4500-H+B	WET/43083		
60151789001	**316-053**	SM 5210B	WET/43063	SM 5210B	WET/43177
60151790001	**316-053**	EPA 350.1	WETA/25964		
60151790001	**316-053**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO#: 60151790

60151790

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: JT 8/26/13 1850

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, plt
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.	
Sufficient volume:	☑Yes ☐No ☐N/A	8.	
Correct containers used:	☑Yes ☐No ☐N/A		
Pace containers used:	☑Yes ☐No ☐N/A	9.	
Containers intact:	☑Yes ☐No ☐N/A	10.	
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.	
Filtered volume received for dissolved tests?	☐Yes ☐No ☑N/A	12.	
Sample labels match COC:	☑Yes ☐No ☐N/A		
Includes date/time/ID/analyses Matrix: water		13.	
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A		BP3N + BP3S - samples not able to be preserved.
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.	
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed JT	Lot # of added preservative 12510-7-3
Trip Blank present:	☑Yes ☐No ☐N/A		
Pace Trip Blank lot # (if purchased): covered		15.	
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16.	all sample vials have headspace.
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: 8/26/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

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

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

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	00151790
1	316-053	OT	G	~~8/24/13~~ 8/25/13	1115				13	9	1	1	2					X	X	X	X	X	X	X	X	X	X			METALS LIST total & LF Dis:
2	TRIP BLANK			8/25/13					2	2															X		2(DW)			Al,Sb,As,Be,Cd,Cr,
3																														Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																														and Mercury
5																														
6																														
7																														
8																														
9																														
10																														
11																														
12																														

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	John Powell/Feezor Eng	8/26/13	0910	Bill Stone 412	8-26-13	9:10				
SITE ADDRESS: BRIDGETON LF				John Powell 1Pace	8/26/13	1315	2,3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER:	John Powell		TEMP in C	Received on Ice (Y/N)
SIGNATURE of SAMPLER:	DATE Signed: 8-26-13		Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

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September 04, 2013

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

RE: Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 26, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

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 316-054
Pace Project No.: 60151792

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151792001	**316-054**	Water	08/26/13 07:05	08/26/13 13:15
60151792002	**TRIP BLANK**	Water	08/26/13 08:00	08/26/13 13:15
60151791001	**316-054**	Water	08/26/13 07:05	08/26/13 13:15

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151792001	**316-054**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151792002	**TRIP BLANK**	EPA 624 Low	JKL	25
60151791001	**316-054**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Sample: 316-054 **Lab ID: 60151792001** Collected: 08/26/13 07:05 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**6440**	ug/L	150	2	08/27/13 16:20	08/30/13 10:30	7429-90-5	
Antimony	**43.3**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:30	7440-36-0	
Arsenic	**698**	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:30	7440-38-2	
Beryllium	ND	ug/L	5.0	5	08/27/13 16:20	08/30/13 11:03	7440-41-7	D3
Cadmium	**12.6**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:30	7440-43-9	
Chromium	**264**	ug/L	25.0	5	08/27/13 16:20	08/30/13 11:03	7440-47-3	
Cobalt	**53.0**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:30	7440-48-4	
Copper	ND	ug/L	20.0	2	08/27/13 16:20	08/30/13 10:30	7440-50-8	D3
Iron	**780000**	ug/L	100	2	08/27/13 16:20	08/30/13 10:30	7439-89-6	
Lead	**164**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:30	7439-92-1	
Nickel	**142**	ug/L	10.0	2	08/27/13 16:20	08/30/13 10:30	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/27/13 16:20	08/30/13 11:03	7782-49-2	D3
Silver	ND	ug/L	14.0	2	08/27/13 16:20	08/30/13 10:30	7440-22-4	D3
Thallium	ND	ug/L	100	5	08/27/13 16:20	08/30/13 11:03	7440-28-0	D3
Zinc	**12800**	ug/L	1000	20	08/27/13 16:20	08/30/13 11:16	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2660**	ug/L	150	2	08/28/13 16:00	08/30/13 14:09	7429-90-5	
Antimony, Dissolved	**41.4**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:09	7440-36-0	
Arsenic, Dissolved	**592**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:09	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/28/13 16:00	08/30/13 14:52	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:09	7440-43-9	D3
Chromium, Dissolved	**220**	ug/L	25.0	5	08/28/13 16:00	08/30/13 14:52	7440-47-3	
Cobalt, Dissolved	**44.1**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:09	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:09	7440-50-8	D3
Iron, Dissolved	**439000**	ug/L	100	2	08/28/13 16:00	08/30/13 14:09	7439-89-6	
Lead, Dissolved	**73.5**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:09	7439-92-1	
Nickel, Dissolved	**129**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:09	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/28/13 16:00	08/30/13 14:52	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/28/13 16:00	08/30/13 14:09	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/28/13 16:00	08/30/13 14:52	7440-28-0	D3
Zinc, Dissolved	**10700**	ug/L	1000	20	08/28/13 16:00	08/30/13 15:34	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:04	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	08/29/13 09:00	08/29/13 12:06	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/28/13 00:00	08/29/13 12:09	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Sample: 316-054 **Lab ID: 60151792001** Collected: 08/26/13 07:05 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	87-86-5	
Phenol	**6980**	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:09	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/28/13 00:00	08/29/13 12:09	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/28/13 00:00	08/29/13 12:09	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/28/13 00:00	08/29/13 12:09	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/28/13 00:00	08/29/13 12:09	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/28/13 00:00	08/29/13 12:09	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/28/13 00:00	08/29/13 12:09	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/27/13 17:06	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/27/13 17:06	75-27-4	
Bromoform	ND	ug/L	200	200		08/27/13 17:06	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/27/13 17:06	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/27/13 17:06	56-23-5	
Chloroethane	ND	ug/L	200	200		08/27/13 17:06	75-00-3	
Chloroform	ND	ug/L	200	200		08/27/13 17:06	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/27/13 17:06	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	200	200		08/27/13 17:06	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 17:06	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/27/13 17:06	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/27/13 17:06	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/27/13 17:06	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/27/13 17:06	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/27/13 17:06	127-18-4	
Toluene	ND	ug/L	200	200		08/27/13 17:06	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/27/13 17:06	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/27/13 17:06	79-00-5	
Trichloroethene	ND	ug/L	200	200		08/27/13 17:06	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/27/13 17:06	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/27/13 17:06	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		08/27/13 17:06	460-00-4	D3,HS
Toluene-d8 (S)	98	%	80-120	200		08/27/13 17:06	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		08/27/13 17:06	17060-07-0	
Preservation pH	**7.0**		1.0	200		08/27/13 17:06		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**484**	mg/L	5.0	1		09/03/13 07:47		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**6.6**	mg/L	5.0	1		09/03/13 07:40		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Sample: 316-054 **Lab ID: 60151792001** Collected: 08/26/13 07:05 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**2980**	mg/L	5.0	1		08/29/13 11:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.8**	Std. Units	0.10	1		08/27/13 15:20		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**821**	mg/L	20.0	200		08/28/13 11:15	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**45300**	mg/L	5000	500		08/28/13 12:15		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Sample: TRIP BLANK **Lab ID: 60151792002** Collected: 08/26/13 08:00 Received: 08/26/13 13:15 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		08/27/13 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/27/13 14:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/27/13 14:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/27/13 14:37	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/27/13 14:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/27/13 14:37	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/27/13 14:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/27/13 14:37	106-46-7	L3
1,2-Dichloroethane	ND	ug/L	1.0	1		08/27/13 14:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/27/13 14:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/27/13 14:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/27/13 14:37	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/27/13 14:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/27/13 14:37	127-18-4	
Toluene	ND	ug/L	1.0	1		08/27/13 14:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/27/13 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/27/13 14:37	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		08/27/13 14:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/27/13 14:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/27/13 14:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	1		08/27/13 14:37	460-00-4	
Toluene-d8 (S)	97	%	80-120	1		08/27/13 14:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		08/27/13 14:37	17060-07-0	
Preservation pH	**7.0**		1.0	1		08/27/13 14:37		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Sample: 316-054 **Lab ID: 60151791001** Collected: 08/26/13 07:05 Received: 08/26/13 13:15 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**29200**	mg/L	2.0	1	08/26/13 15:28	08/31/13 11:00		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151792001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: MERP/7652
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151792001

METHOD BLANK: 1243868 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/29/13 11:44	

LABORATORY CONTROL SAMPLE: 1243869

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243870 1243871

Parameter	Units	60151790001 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	0.61	0.68	11	13	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: MPRP/24002
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151792001

METHOD BLANK: 1243147 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	08/29/13 16:23	
Antimony	ug/L	ND	10.0	08/29/13 16:23	
Arsenic	ug/L	ND	10.0	08/29/13 16:23	
Beryllium	ug/L	ND	1.0	08/29/13 16:23	
Cadmium	ug/L	ND	5.0	08/29/13 16:23	
Chromium	ug/L	ND	5.0	08/29/13 16:23	
Cobalt	ug/L	ND	5.0	08/29/13 16:23	
Copper	ug/L	ND	10.0	08/29/13 16:23	
Iron	ug/L	ND	50.0	08/29/13 16:23	
Lead	ug/L	ND	5.0	08/29/13 16:23	
Nickel	ug/L	ND	5.0	08/29/13 16:23	
Selenium	ug/L	ND	15.0	08/29/13 16:23	
Silver	ug/L	ND	7.0	08/29/13 16:23	
Thallium	ug/L	ND	20.0	08/29/13 16:23	
Zinc	ug/L	ND	50.0	08/29/13 16:23	

LABORATORY CONTROL SAMPLE: 1243148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9810	98	85-115	
Antimony	ug/L	1000	1010	101	85-115	
Arsenic	ug/L	1000	967	97	85-115	
Beryllium	ug/L	1000	964	96	85-115	
Cadmium	ug/L	1000	984	98	85-115	
Chromium	ug/L	1000	940	94	85-115	
Cobalt	ug/L	1000	986	99	85-115	
Copper	ug/L	1000	970	97	85-115	
Iron	ug/L	10000	9140	91	85-115	
Lead	ug/L	1000	963	96	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	1010	101	85-115	
Silver	ug/L	500	467	93	85-115	
Thallium	ug/L	1000	1010	101	85-115	
Zinc	ug/L	1000	969	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	ND	10000	10000	10000	9930	100	99	70-130	1	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243149 1243150

Parameter	Units	60151447002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	ND	1000	1000	1050	1030	105	103	70-130	2	7	
Arsenic	ug/L	ND	1000	1000	1020	1010	102	101	70-130	1	10	
Beryllium	ug/L	ND	1000	1000	986	975	99	98	70-130	1	7	
Cadmium	ug/L	ND	1000	1000	1010	1000	101	100	70-130	1	10	
Chromium	ug/L	ND	1000	1000	928	922	93	92	70-130	1	10	
Cobalt	ug/L	ND	1000	1000	961	951	96	95	70-130	1	6	
Copper	ug/L	ND	1000	1000	1000	987	99	98	70-130	2	11	
Iron	ug/L	ND	10000	10000	9140	9080	91	91	70-130	1	10	
Lead	ug/L	ND	1000	1000	916	908	92	91	70-130	1	10	
Nickel	ug/L	ND	1000	1000	995	987	99	98	70-130	1	10	
Selenium	ug/L	ND	1000	1000	1050	1040	105	104	70-130	1	10	
Silver	ug/L	ND	500	500	476	470	95	94	70-130	1	10	
Thallium	ug/L	ND	1000	1000	916	908	91	91	70-130	1	6	
Zinc	ug/L	ND	1000	1000	998	995	96	96	70-130	0	11	

MATRIX SPIKE SAMPLE: 1243151

Parameter	Units	60151450002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	1170	10000	11400	103	70-130	
Antimony	ug/L	ND	1000	1030	102	70-130	
Arsenic	ug/L	ND	1000	1010	100	70-130	
Beryllium	ug/L	ND	1000	970	97	70-130	
Cadmium	ug/L	ND	1000	996	100	70-130	
Chromium	ug/L	ND	1000	911	91	70-130	
Cobalt	ug/L	ND	1000	954	95	70-130	
Copper	ug/L	87.1	1000	1080	99	70-130	
Iron	ug/L	1640	10000	10800	91	70-130	
Lead	ug/L	5.6	1000	915	91	70-130	
Nickel	ug/L	18.7	1000	1000	98	70-130	
Selenium	ug/L	ND	1000	941	93	70-130	
Silver	ug/L	ND	500	463	93	70-130	
Thallium	ug/L	ND	1000	918	92	70-130	
Zinc	ug/L	102	1000	1060	96	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: MPRP/24028
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151792001

METHOD BLANK: 1243827 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/30/13 11:38	
Antimony, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Arsenic, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Beryllium, Dissolved	ug/L	ND	1.0	08/30/13 11:38	
Cadmium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Chromium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Cobalt, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Copper, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Iron, Dissolved	ug/L	ND	50.0	08/30/13 11:38	
Lead, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Nickel, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Selenium, Dissolved	ug/L	ND	15.0	08/30/13 11:38	
Silver, Dissolved	ug/L	ND	7.0	08/30/13 11:38	
Thallium, Dissolved	ug/L	ND	20.0	08/30/13 11:38	
Zinc, Dissolved	ug/L	ND	50.0	08/30/13 11:38	

LABORATORY CONTROL SAMPLE: 1243828

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	994	99	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	966	97	85-115	
Cadmium, Dissolved	ug/L	1000	970	97	85-115	
Chromium, Dissolved	ug/L	1000	986	99	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	957	96	85-115	
Iron, Dissolved	ug/L	10000	9710	97	85-115	
Lead, Dissolved	ug/L	1000	959	96	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	957	96	85-115	
Silver, Dissolved	ug/L	500	464	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 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	2730	10000	10000	13800	13500	111	108	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	42.9	1000	1000	1040	1010	100	96	70-130	4	7	
Arsenic, Dissolved	ug/L	588	1000	1000	1730	1710	114	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	974	990	97	99	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1120	1100	111	109	70-130	2	10	
Chromium, Dissolved	ug/L	204	1000	1000	1150	1170	95	97	70-130	2	10	
Cobalt, Dissolved	ug/L	41.3	1000	1000	1010	995	97	95	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1040	988	103	99	70-130	5	11	
Iron, Dissolved	ug/L	447000	10000	10000	458000	451000	112	42	70-130	2	10	M1
Lead, Dissolved	ug/L	79.3	1000	1000	947	928	87	85	70-130	2	10	
Nickel, Dissolved	ug/L	123	1000	1000	1080	1060	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1060	109	106	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	56.4	103	10	19	70-130	58	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	832	846	83	85	70-130	2	6	
Zinc, Dissolved	ug/L	10500	1000	1000	12100	12600	156	207	70-130	4	11	M1

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: MSV/55839 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151792001, 60151792002

METHOD BLANK: 1242924 Matrix: Water
Associated Lab Samples: 60151792001, 60151792002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,2-Dichloroethane	ug/L	ND	1.0	08/27/13 10:11	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/27/13 10:11	
Benzene	ug/L	ND	1.0	08/27/13 10:11	
Bromodichloromethane	ug/L	ND	1.0	08/27/13 10:11	
Bromoform	ug/L	ND	1.0	08/27/13 10:11	
Bromomethane	ug/L	ND	5.0	08/27/13 10:11	
Carbon tetrachloride	ug/L	ND	1.0	08/27/13 10:11	
Chloroethane	ug/L	ND	1.0	08/27/13 10:11	
Chloroform	ug/L	ND	1.0	08/27/13 10:11	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Ethylbenzene	ug/L	ND	1.0	08/27/13 10:11	
Methylene chloride	ug/L	ND	1.0	08/27/13 10:11	
Tetrachloroethene	ug/L	ND	1.0	08/27/13 10:11	
Toluene	ug/L	ND	1.0	08/27/13 10:11	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Trichloroethene	ug/L	ND	1.0	08/27/13 10:11	
Vinyl chloride	ug/L	ND	1.0	08/27/13 10:11	
Xylene (Total)	ug/L	ND	3.0	08/27/13 10:11	
1,2-Dichloroethane-d4 (S)	%	98	80-120	08/27/13 10:11	
4-Bromofluorobenzene (S)	%	102	80-120	08/27/13 10:11	
Toluene-d8 (S)	%	98	80-120	08/27/13 10:11	

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	24.2	121	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	24.3	121	59-138	
1,1,2-Trichloroethane	ug/L	20	19.9	100	69-127	
1,2-Dichloroethane	ug/L	20	22.2	111	71-129	
1,4-Dichlorobenzene	ug/L	20	25.1	126	68-124	L0
Benzene	ug/L	20	22.4	112	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	23.8	119	52-123	
Bromomethane	ug/L	20	20.2	101	10-160	
Carbon tetrachloride	ug/L	20	25.8	129	70-140	
Chloroethane	ug/L	20	22.3	111	42-160	
Chloroform	ug/L	20	21.5	107	60-120	
cis-1,2-Dichloroethene	ug/L	20	22.2	111	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

LABORATORY CONTROL SAMPLE: 1242925

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	24.4	122	66-133	
Methylene chloride	ug/L	20	22.5	112	56-135	
Tetrachloroethene	ug/L	20	23.5	117	64-143	
Toluene	ug/L	20	21.9	109	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.2	111	67-149	
Trichloroethene	ug/L	20	20.5	103	71-130	
Vinyl chloride	ug/L	20	22.5	113	41-160	
Xylene (Total)	ug/L	60	72.4	121	67-130	
1,2-Dichloroethane-d4 (S)	%			108	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			99	80-120	

MATRIX SPIKE SAMPLE: 1242926

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3940	99	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4520	113	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3410	85	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3630	91	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	4600	115	18-147	
Benzene	ug/L	ND	4000	3660	91	37-151	
Bromodichloromethane	ug/L	ND	4000	3630	91	35-155	
Bromoform	ug/L	ND	4000	4030	101	45-133	
Bromomethane	ug/L	ND	4000	2570	64	10-160	
Carbon tetrachloride	ug/L	ND	4000	4120	103	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	ND	4000	3500	87	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3610	90	19-160	
Ethylbenzene	ug/L	ND	4000	4240	106	37-154	
Methylene chloride	ug/L	ND	4000	3600	90	15-156	
Tetrachloroethene	ug/L	ND	4000	3940	99	64-148	
Toluene	ug/L	ND	4000	3700	92	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3470	87	54-156	
Trichloroethene	ug/L	ND	4000	3360	84	71-157	
Vinyl chloride	ug/L	ND	4000	3350	84	10-160	
Xylene (Total)	ug/L	ND	12000	12600	105	12-153	
1,2-Dichloroethane-d4 (S)	%				100	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	HS
Toluene-d8 (S)	%				99	80-120	
Preservation pH		7.0		7.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: OEXT/40115 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60151792001

METHOD BLANK: 1243299 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/29/13 09:23	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/29/13 09:23	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachloroethane	ug/L	ND	5.0	08/29/13 09:23	
Naphthalene	ug/L	ND	5.0	08/29/13 09:23	
Nitrobenzene	ug/L	ND	5.0	08/29/13 09:23	
Pentachlorophenol	ug/L	ND	5.0	08/29/13 09:23	
Phenol	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Tribromophenol (S)	%	107	39-119	08/29/13 09:23	
2-Fluorobiphenyl (S)	%	96	36-120	08/29/13 09:23	
2-Fluorophenol (S)	%	55	18-120	08/29/13 09:23	
Nitrobenzene-d5 (S)	%	95	32-120	08/29/13 09:23	
Phenol-d6 (S)	%	37	12-120	08/29/13 09:23	
Terphenyl-d14 (S)	%	103	44-120	08/29/13 09:23	

LABORATORY CONTROL SAMPLE: 1243300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.4	87	44-120	
2,4,6-Trichlorophenol	ug/L	50	48.0	96	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	61.1	122	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.9	82	41-116	
Hexachlorocyclopentadiene	ug/L	100	63.0	63	31-120	
Hexachloroethane	ug/L	50	42.3	85	40-113	
Naphthalene	ug/L	50	45.6	91	48-120	
Nitrobenzene	ug/L	50	45.9	92	47-120	
Pentachlorophenol	ug/L	50	56.2	112	43-127	
Phenol	ug/L	50	21.0	42	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			89	36-120	
2-Fluorophenol (S)	%			54	18-120	
Nitrobenzene-d5 (S)	%			87	32-120	M4
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			93	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

MATRIX SPIKE SAMPLE: 1243301

Parameter	Units	60151663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	45.2	90	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	48.4	97	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	55.3	111	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	44.8	90	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	75.7	76	11-120	
Hexachloroethane	ug/L	ND	50	42.9	86	40-113	
Naphthalene	ug/L	ND	50	47.3	95	32-120	
Nitrobenzene	ug/L	ND	50	49.9	100	35-128	
Pentachlorophenol	ug/L	ND	50	60.5	121	38-133	
Phenol	ug/L	ND	50	18.0	36	13-112	
2,4,6-Tribromophenol (S)	%				95	39-119	
2-Fluorobiphenyl (S)	%				94	36-120	
2-Fluorophenol (S)	%				49	18-120	
Nitrobenzene-d5 (S)	%				87	32-120	
Phenol-d6 (S)	%				32	12-120	
Terphenyl-d14 (S)	%				94	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WET/43185
QC Batch Method: EPA 1664A
Associated Lab Samples: 60151792001

Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease

METHOD BLANK: 1246408 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 07:43	

LABORATORY CONTROL SAMPLE: 1246409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.9	105	78-114	

MATRIX SPIKE SAMPLE: 1246412

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	493	40	563	175	78-114	M1

SAMPLE DUPLICATE: 1246413

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	340	296	14	18	

SAMPLE DUPLICATE: 1246414

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	484	456	6	18	

SAMPLE DUPLICATE: 1246415

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	472	506	7	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WET/43184
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151792001

METHOD BLANK: 1246404 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/03/13 07:38	

LABORATORY CONTROL SAMPLE: 1246405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.6	103	64-132	

MATRIX SPIKE SAMPLE: 1246406

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.5	20	30.1	73	64-132	

SAMPLE DUPLICATE: 1246444

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.4	7	34	

SAMPLE DUPLICATE: 1246445

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.6	7.8	16	34	

SAMPLE DUPLICATE: 1246446

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	6.0	43	34	D6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WET/43128 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151792001

METHOD BLANK: 1244293 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/29/13 11:05	

SAMPLE DUPLICATE: 1244294

Parameter	Units	60151721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	215	239	11	25	

SAMPLE DUPLICATE: 1244295

Parameter	Units	60151839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	65.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WET/43083
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151792001

SAMPLE DUPLICATE: 1243220

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	1	5	H6

SAMPLE DUPLICATE: 1243222

Parameter	Units	60151790001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WET/43063 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151791001

METHOD BLANK: 1242563 Matrix: Water
Associated Lab Samples: 60151791001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	08/31/13 10:48	

LABORATORY CONTROL SAMPLE: 1242564

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1242565

Parameter	Units	60151786001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	26800	31800	17	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WETA/25964
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151792001

METHOD BLANK: 1243238 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/28/13 11:10	

LABORATORY CONTROL SAMPLE: 1243239

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

MATRIX SPIKE SAMPLE: 1243240

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	777	400	1140	91	90-110	

SAMPLE DUPLICATE: 1243241

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	821	817	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

QC Batch: WETA/25952 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60151792001

METHOD BLANK: 1242775 Matrix: Water
Associated Lab Samples: 60151792001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	08/28/13 12:08	

LABORATORY CONTROL SAMPLE: 1242776

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	45.3	91	90-110	

MATRIX SPIKE SAMPLE: 1242785

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	49700	25000	78000	113	90-110	M1

SAMPLE DUPLICATE: 1242784

Parameter	Units	60151494001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	56000	51800	8	25	

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QUALIFIERS

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-054
Pace Project No.: 60151792

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151792001	**316-054**	EPA 200.7	MPRP/24002	EPA 200.7	ICP/18773
60151792001	**316-054**	EPA 200.7	MPRP/24028	EPA 200.7	ICP/18782
60151792001	**316-054**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151792001	**316-054**	EPA 245.1	MERP/7652	EPA 245.1	MERC/7607
60151792001	**316-054**	EPA 625	OEXT/40115	EPA 625	MSSV/12709
60151792001	**316-054**	EPA 624 Low	MSV/55839		
60151792002	**TRIP BLANK**	EPA 624 Low	MSV/55839		
60151792001	**316-054**	EPA 1664A	WET/43185		
60151792001	**316-054**	EPA 1664A	WET/43184		
60151792001	**316-054**	SM 2540D	WET/43128		
60151792001	**316-054**	SM 4500-H+B	WET/43083		
60151791001	**316-054**	SM 5210B	WET/43063	SM 5210B	WET/43177
60151792001	**316-054**	EPA 350.1	WETA/25964		
60151792001	**316-054**	EPA 410.4	WETA/25952		

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Sample Condition Upon Receipt

WO#: 60151792

60151792

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.7

Date and initials of person examining contents: JMS 8/26/13

Temperature should be above freezing to 6°C

Chain of Custody present:	☑Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☑Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☑Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☑Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☑Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☑Yes ☐No ☐N/A	6. BOD, pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: water		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	BP3S + BP3N – samples not able to be preserved
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☑No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes ☐No	Initial when completed / Lot # of added preservative 12510-143
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Covered		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	Samples not able to be preserved. headspace in all sample vials
		16.
Project sampled in USDA Regulated Area:	☐Yes ☐No ☑N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/26/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency	
State / Location	Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60151792
1	316-054	OT	G	8/26/13	6705				13	9	1	1	2						X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK								2	2																X						Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature] / Feezor Eng	8/26/13	0910	[signature] 4N2	8:26:13	9:10
SITE ADDRESS: BRIDGETON LF				[signature] Barr	8/26/13	135
13570 ST. CHARLES ROCK RD						
BRIDGETON MO 63044						

SAMPLE CONDITIONS			
TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
1.7	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature] DATE Signed: 08-26-13

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September 10, 2013

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

RE: Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

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

Amended report revised 09/10/13 for pH sample analyses date correction.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

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 316-055
Pace Project No.: 60151872

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60151872001	**316-055**	Water	08/27/13 07:25	08/28/13 02:20
60151872002	**TRIP BLANK**	Water	08/27/13 07:25	08/28/13 02:20
60151873001	**316-055**	Water	08/27/13 07:25	08/28/13 02:20

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60151872001	**316-055**	EPA 200.7	NDJ	15
		EPA 200.7	JGP	15
		EPA 245.1	TJT	1
		EPA 245.1	TJT	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60151872002	**TRIP BLANK**	EPA 624 Low	JKL	25
60151873001	**316-055**	SM 5210B	DJR	1

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Sample: 316-055 **Lab ID: 60151872001** Collected: 08/27/13 07:25 Received: 08/28/13 02:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**7030**	ug/L	150	2	08/30/13 16:00	09/04/13 12:52	7429-90-5	
Antimony	ND	ug/L	50.0	5	08/30/13 16:00	09/04/13 12:54	7440-36-0	D3
Arsenic	**708**	ug/L	50.0	5	08/30/13 16:00	09/04/13 12:54	7440-38-2	
Beryllium	ND	ug/L	2.0	2	08/30/13 16:00	09/04/13 12:52	7440-41-7	D3
Cadmium	ND	ug/L	25.0	5	08/30/13 16:00	09/04/13 12:54	7440-43-9	
Chromium	**253**	ug/L	25.0	5	08/30/13 16:00	09/04/13 12:54	7440-47-3	
Cobalt	**42.3**	ug/L	25.0	5	08/30/13 16:00	09/04/13 12:54	7440-48-4	
Copper	ND	ug/L	50.0	5	08/30/13 16:00	09/04/13 12:54	7440-50-8	
Iron	**751000**	ug/L	100	2	08/30/13 16:00	09/04/13 12:52	7439-89-6	
Lead	**159**	ug/L	25.0	5	08/30/13 16:00	09/04/13 12:54	7439-92-1	
Nickel	**150**	ug/L	25.0	5	08/30/13 16:00	09/04/13 12:54	7440-02-0	
Selenium	ND	ug/L	75.0	5	08/30/13 16:00	09/04/13 12:54	7782-49-2	
Silver	ND	ug/L	35.0	5	08/30/13 16:00	09/04/13 12:54	7440-22-4	
Thallium	ND	ug/L	100	5	08/30/13 16:00	09/04/13 12:54	7440-28-0	
Zinc	**13500**	ug/L	1000	20	08/30/13 16:00	09/04/13 13:01	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2960**	ug/L	150	2	08/28/13 16:00	08/30/13 14:12	7429-90-5	
Antimony, Dissolved	**39.5**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:12	7440-36-0	D9
Arsenic, Dissolved	**606**	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:12	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	08/28/13 16:00	08/30/13 14:55	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:12	7440-43-9	D3
Chromium, Dissolved	**219**	ug/L	25.0	5	08/28/13 16:00	08/30/13 14:55	7440-47-3	
Cobalt, Dissolved	**44.0**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:12	7440-48-4	D9
Copper, Dissolved	ND	ug/L	20.0	2	08/28/13 16:00	08/30/13 14:12	7440-50-8	D3
Iron, Dissolved	**471000**	ug/L	100	2	08/28/13 16:00	08/30/13 14:12	7439-89-6	
Lead, Dissolved	**77.8**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:12	7439-92-1	
Nickel, Dissolved	**124**	ug/L	10.0	2	08/28/13 16:00	08/30/13 14:12	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	08/28/13 16:00	08/30/13 14:55	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	08/28/13 16:00	08/30/13 14:12	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	08/28/13 16:00	08/30/13 14:55	7440-28-0	D3
Zinc, Dissolved	**11500**	ug/L	1000	20	08/28/13 16:00	08/30/13 15:37	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.24**	ug/L	0.20	1	08/29/13 16:35	08/30/13 09:16	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	08/29/13 09:00	08/29/13 12:09	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/28/13 00:00	08/29/13 12:30	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	98-95-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Sample: 316-055 **Lab ID: 60151872001** Collected: 08/27/13 07:25 Received: 08/28/13 02:20 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	20	08/28/13 00:00	08/29/13 12:30	87-86-5	
Phenol	**8980**	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/28/13 00:00	08/29/13 12:30	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/28/13 00:00	08/29/13 12:30	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/28/13 00:00	08/29/13 12:30	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/28/13 00:00	08/29/13 12:30	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/28/13 00:00	08/29/13 12:30	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/28/13 00:00	08/29/13 12:30	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/28/13 00:00	08/29/13 12:30	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/30/13 14:58	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/30/13 14:58	75-27-4	
Bromoform	ND	ug/L	200	200		08/30/13 14:58	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/30/13 14:58	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/30/13 14:58	56-23-5	
Chloroethane	ND	ug/L	200	200		08/30/13 14:58	75-00-3	
Chloroform	**218**	ug/L	200	200		08/30/13 14:58	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/30/13 14:58	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/30/13 14:58	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 14:58	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 14:58	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/30/13 14:58	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/30/13 14:58	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/30/13 14:58	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/30/13 14:58	127-18-4	
Toluene	ND	ug/L	200	200		08/30/13 14:58	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/30/13 14:58	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/30/13 14:58	79-00-5	L2
Trichloroethene	ND	ug/L	200	200		08/30/13 14:58	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/30/13 14:58	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/30/13 14:58	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	100	%	80-120	200		08/30/13 14:58	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		08/30/13 14:58	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		08/30/13 14:58	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/30/13 14:58		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**472**	mg/L	5.0	1		09/03/13 07:48		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**9.2**	mg/L	5.0	1		09/03/13 07:40		D6

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Sample: 316-055 **Lab ID: 60151872001** Collected: 08/27/13 07:25 Received: 08/28/13 02:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3340**	mg/L	5.0	1		08/29/13 11:10		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/28/13 19:48		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**749**	mg/L	20.0	200		08/30/13 16:25	7664-41-7	M1
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**65700**	mg/L	10000	1000		09/05/13 14:17		M1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Sample: TRIP BLANK **Lab ID: 60151872002** Collected: 08/27/13 07:25 Received: 08/28/13 02:20 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		08/30/13 13:54	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/30/13 13:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/30/13 13:54	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/30/13 13:54	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/30/13 13:54	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/30/13 13:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		08/30/13 13:54	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/30/13 13:54	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/30/13 13:54	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 13:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 13:54	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/30/13 13:54	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/30/13 13:54	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/30/13 13:54	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/30/13 13:54	127-18-4	
Toluene	ND	ug/L	1.0	1		08/30/13 13:54	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/30/13 13:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/30/13 13:54	79-00-5	L2
Trichloroethene	ND	ug/L	1.0	1		08/30/13 13:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/30/13 13:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/30/13 13:54	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/30/13 13:54	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/30/13 13:54	2037-26-5	
1,2-Dichloroethane-d4 (S)	95	%	80-120	1		08/30/13 13:54	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/30/13 13:54		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Sample: 316-055 **Lab ID: 60151873001** Collected: 08/27/13 07:25 Received: 08/28/13 02:20 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**30100**	mg/L	2.0	1	08/28/13 17:00	09/02/13 12:24		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: MERP/7653
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60151872001

METHOD BLANK: 1243877 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	08/30/13 08:49	

LABORATORY CONTROL SAMPLE: 1243878

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.9	98	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243879 1243880

Parameter	Units	60151790001 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	.15J	ND	1	2	70-130		20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: MERP/7652
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60151872001

METHOD BLANK: 1243868 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	08/29/13 11:44	

LABORATORY CONTROL SAMPLE: 1243869

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

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243870 1243871

Parameter	Units	60151790001 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	0.61	0.68	11	13	70-130	11	20	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: MPRP/24054
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60151872001

METHOD BLANK: 1245153 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/04/13 11:53	
Antimony	ug/L	ND	10.0	09/04/13 11:53	
Arsenic	ug/L	ND	10.0	09/04/13 11:53	
Beryllium	ug/L	ND	1.0	09/04/13 11:53	
Cadmium	ug/L	ND	5.0	09/04/13 11:53	
Chromium	ug/L	ND	5.0	09/04/13 11:53	
Cobalt	ug/L	ND	5.0	09/04/13 11:53	
Copper	ug/L	ND	10.0	09/04/13 11:53	
Iron	ug/L	ND	50.0	09/04/13 11:53	
Lead	ug/L	ND	5.0	09/04/13 11:53	
Nickel	ug/L	ND	5.0	09/04/13 11:53	
Selenium	ug/L	ND	15.0	09/04/13 11:53	
Silver	ug/L	ND	7.0	09/04/13 11:53	
Thallium	ug/L	ND	20.0	09/04/13 11:53	
Zinc	ug/L	ND	50.0	09/04/13 11:53	

LABORATORY CONTROL SAMPLE: 1245154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	9900	99	85-115	
Antimony	ug/L	1000	1030	103	85-115	
Arsenic	ug/L	1000	1010	101	85-115	
Beryllium	ug/L	1000	996	100	85-115	
Cadmium	ug/L	1000	1010	101	85-115	
Chromium	ug/L	1000	982	98	85-115	
Cobalt	ug/L	1000	1040	104	85-115	
Copper	ug/L	1000	978	98	85-115	
Iron	ug/L	10000	9680	97	85-115	
Lead	ug/L	1000	1040	104	85-115	
Nickel	ug/L	1000	1060	106	85-115	
Selenium	ug/L	1000	1020	102	85-115	
Silver	ug/L	500	490	98	85-115	
Thallium	ug/L	1000	1070	107	85-115	
Zinc	ug/L	1000	1030	103	85-115	

MATRIX SPIKE SAMPLE: 1245155

Parameter	Units	60151424002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	10000	9920	99	70-130	
Antimony	ug/L	ND	1000	1040	104	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

MATRIX SPIKE SAMPLE: 1245155

Parameter	Units	60151424002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Arsenic	ug/L	ND	1000	1050	105	70-130	
Beryllium	ug/L	ND	1000	996	100	70-130	
Cadmium	ug/L	ND	1000	1020	102	70-130	
Chromium	ug/L	ND	1000	978	98	70-130	
Cobalt	ug/L	ND	1000	1010	101	70-130	
Copper	ug/L	ND	1000	992	99	70-130	
Iron	ug/L	ND	10000	9680	97	70-130	
Lead	ug/L	5.6	1000	1020	101	70-130	
Nickel	ug/L	ND	1000	1030	103	70-130	
Selenium	ug/L	ND	1000	1040	104	70-130	
Silver	ug/L	ND	500	496	99	70-130	
Thallium	ug/L	ND	1000	1010	101	70-130	
Zinc	ug/L	ND	1000	1060	102	70-130	

MATRIX SPIKE SAMPLE: 1245156

Parameter	Units	60151663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	112	10000	9710	96	70-130	
Antimony	ug/L	ND	1000	1010	101	70-130	
Arsenic	ug/L	ND	1000	994	99	70-130	
Beryllium	ug/L	ND	1000	967	97	70-130	
Cadmium	ug/L	ND	1000	976	98	70-130	
Chromium	ug/L	ND	1000	915	91	70-130	
Cobalt	ug/L	ND	1000	995	99	70-130	
Copper	ug/L	30.9	1000	964	93	70-130	
Iron	ug/L	5880	10000	14900	90	70-130	
Lead	ug/L	ND	1000	985	98	70-130	
Nickel	ug/L	19.5	1000	1020	100	70-130	
Selenium	ug/L	ND	1000	998	100	70-130	
Silver	ug/L	ND	500	465	93	70-130	
Thallium	ug/L	ND	1000	984	98	70-130	
Zinc	ug/L	90.8	1000	1050	96	70-130	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: MPRP/24028
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60151872001

METHOD BLANK: 1243827 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	08/30/13 11:38	
Antimony, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Arsenic, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Beryllium, Dissolved	ug/L	ND	1.0	08/30/13 11:38	
Cadmium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Chromium, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Cobalt, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Copper, Dissolved	ug/L	ND	10.0	08/30/13 11:38	
Iron, Dissolved	ug/L	ND	50.0	08/30/13 11:38	
Lead, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Nickel, Dissolved	ug/L	ND	5.0	08/30/13 11:38	
Selenium, Dissolved	ug/L	ND	15.0	08/30/13 11:38	
Silver, Dissolved	ug/L	ND	7.0	08/30/13 11:38	
Thallium, Dissolved	ug/L	ND	20.0	08/30/13 11:38	
Zinc, Dissolved	ug/L	ND	50.0	08/30/13 11:38	

LABORATORY CONTROL SAMPLE: 1243828

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	994	99	85-115	
Arsenic, Dissolved	ug/L	1000	955	96	85-115	
Beryllium, Dissolved	ug/L	1000	966	97	85-115	
Cadmium, Dissolved	ug/L	1000	970	97	85-115	
Chromium, Dissolved	ug/L	1000	986	99	85-115	
Cobalt, Dissolved	ug/L	1000	1000	100	85-115	
Copper, Dissolved	ug/L	1000	957	96	85-115	
Iron, Dissolved	ug/L	10000	9710	97	85-115	
Lead, Dissolved	ug/L	1000	959	96	85-115	
Nickel, Dissolved	ug/L	1000	1000	100	85-115	
Selenium, Dissolved	ug/L	1000	957	96	85-115	
Silver, Dissolved	ug/L	500	464	93	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	974	97	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 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	2730	10000	10000	13800	13500	111	108	70-130	2	8	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1243829 1243830

Parameter	Units	60151790001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	42.9	1000	1000	1040	1010	100	96	70-130	4	7	
Arsenic, Dissolved	ug/L	588	1000	1000	1730	1710	114	112	70-130	1	10	
Beryllium, Dissolved	ug/L	ND	1000	1000	974	990	97	99	70-130	2	7	
Cadmium, Dissolved	ug/L	ND	1000	1000	1120	1100	111	109	70-130	2	10	
Chromium, Dissolved	ug/L	204	1000	1000	1150	1170	95	97	70-130	2	10	
Cobalt, Dissolved	ug/L	41.3	1000	1000	1010	995	97	95	70-130	2	6	
Copper, Dissolved	ug/L	ND	1000	1000	1040	988	103	99	70-130	5	11	
Iron, Dissolved	ug/L	447000	10000	10000	458000	451000	112	42	70-130	2	10	M1
Lead, Dissolved	ug/L	79.3	1000	1000	947	928	87	85	70-130	2	10	
Nickel, Dissolved	ug/L	123	1000	1000	1080	1060	96	94	70-130	2	10	
Selenium, Dissolved	ug/L	ND	1000	1000	1090	1060	109	106	70-130	3	10	
Silver, Dissolved	ug/L	ND	500	500	56.4	103	10	19	70-130	58	10	M1,R1
Thallium, Dissolved	ug/L	ND	1000	1000	832	846	83	85	70-130	2	6	
Zinc, Dissolved	ug/L	10500	1000	1000	12100	12600	156	207	70-130	4	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: MSV/55936 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60151872001, 60151872002

METHOD BLANK: 1245309 Matrix: Water
Associated Lab Samples: 60151872001, 60151872002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,2-Dichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/30/13 12:07	
Benzene	ug/L	ND	1.0	08/30/13 12:07	
Bromodichloromethane	ug/L	ND	1.0	08/30/13 12:07	
Bromoform	ug/L	ND	1.0	08/30/13 12:07	
Bromomethane	ug/L	ND	5.0	08/30/13 12:07	
Carbon tetrachloride	ug/L	ND	1.0	08/30/13 12:07	
Chloroethane	ug/L	ND	1.0	08/30/13 12:07	
Chloroform	ug/L	ND	1.0	08/30/13 12:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Ethylbenzene	ug/L	ND	1.0	08/30/13 12:07	
Methylene chloride	ug/L	ND	1.0	08/30/13 12:07	
Tetrachloroethene	ug/L	ND	1.0	08/30/13 12:07	
Toluene	ug/L	ND	1.0	08/30/13 12:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Trichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Vinyl chloride	ug/L	ND	1.0	08/30/13 12:07	
Xylene (Total)	ug/L	ND	3.0	08/30/13 12:07	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/30/13 12:07	
4-Bromofluorobenzene (S)	%	100	80-120	08/30/13 12:07	
Toluene-d8 (S)	%	99	80-120	08/30/13 12:07	

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.2	81	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	16.3	81	59-138	
1,1,2-Trichloroethane	ug/L	20	13.3	67	69-127	L0
1,2-Dichloroethane	ug/L	20	15.3	76	71-129	
1,4-Dichlorobenzene	ug/L	20	18.7	93	68-124	
Benzene	ug/L	20	15.6	78	73-129	
Bromodichloromethane	ug/L	20	14.8	74	63-129	
Bromoform	ug/L	20	14.9	75	52-123	
Bromomethane	ug/L	20	10.4	52	10-160	
Carbon tetrachloride	ug/L	20	17.3	87	70-140	
Chloroethane	ug/L	20	15.5	77	42-160	
Chloroform	ug/L	20	15.0	75	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	15.6	78	56-135	
Tetrachloroethene	ug/L	20	17.6	88	64-143	
Toluene	ug/L	20	15.9	79	70-130	
trans-1,2-Dichloroethene	ug/L	20	14.7	74	67-149	
Trichloroethene	ug/L	20	15.3	76	71-130	
Vinyl chloride	ug/L	20	12.5	62	41-160	
Xylene (Total)	ug/L	60	54.6	91	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1245311

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3540	89	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3550	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2910	73	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3350	84	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3940	99	18-147	
Benzene	ug/L	ND	4000	3440	86	37-151	
Bromodichloromethane	ug/L	ND	4000	3320	83	35-155	
Bromoform	ug/L	ND	4000	3270	82	45-133	
Bromomethane	ug/L	ND	4000	1760	44	10-160	
Carbon tetrachloride	ug/L	ND	4000	3750	94	70-140	
Chloroethane	ug/L	ND	4000	2900	73	14-160	
Chloroform	ug/L	218	4000	3350	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3280	82	19-160	
Ethylbenzene	ug/L	ND	4000	3900	97	37-154	
Methylene chloride	ug/L	ND	4000	3270	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3800	95	64-148	
Toluene	ug/L	ND	4000	3430	86	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3080	77	54-156	
Trichloroethene	ug/L	ND	4000	3300	82	71-157	
Vinyl chloride	ug/L	ND	4000	2370	59	10-160	
Xylene (Total)	ug/L	ND	12000	11600	97	12-153	
1,2-Dichloroethane-d4 (S)	%				101	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 316-055
Pace Project No.: 60151872

QC Batch: OEXT/40115
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60151872001

METHOD BLANK: 1243299 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Trichlorophenol	ug/L	ND	5.0	08/29/13 09:23	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	08/29/13 09:23	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachlorocyclopentadiene	ug/L	ND	5.0	08/29/13 09:23	
Hexachloroethane	ug/L	ND	5.0	08/29/13 09:23	
Naphthalene	ug/L	ND	5.0	08/29/13 09:23	
Nitrobenzene	ug/L	ND	5.0	08/29/13 09:23	
Pentachlorophenol	ug/L	ND	5.0	08/29/13 09:23	
Phenol	ug/L	ND	5.0	08/29/13 09:23	
2,4,6-Tribromophenol (S)	%	107	39-119	08/29/13 09:23	
2-Fluorobiphenyl (S)	%	96	36-120	08/29/13 09:23	
2-Fluorophenol (S)	%	55	18-120	08/29/13 09:23	
Nitrobenzene-d5 (S)	%	95	32-120	08/29/13 09:23	
Phenol-d6 (S)	%	37	12-120	08/29/13 09:23	
Terphenyl-d14 (S)	%	103	44-120	08/29/13 09:23	

LABORATORY CONTROL SAMPLE: 1243300

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	43.4	87	44-120	
2,4,6-Trichlorophenol	ug/L	50	48.0	96	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	61.1	122	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.9	82	41-116	
Hexachlorocyclopentadiene	ug/L	100	63.0	63	31-120	
Hexachloroethane	ug/L	50	42.3	85	40-113	
Naphthalene	ug/L	50	45.6	91	48-120	
Nitrobenzene	ug/L	50	45.9	92	47-120	
Pentachlorophenol	ug/L	50	56.2	112	43-127	
Phenol	ug/L	50	21.0	42	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			89	36-120	
2-Fluorophenol (S)	%			54	18-120	
Nitrobenzene-d5 (S)	%			87	32-120	M4
Phenol-d6 (S)	%			36	12-120	
Terphenyl-d14 (S)	%			93	44-120	

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

MATRIX SPIKE SAMPLE: 1243301

Parameter	Units	60151663001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	50	45.2	90	44-120	
2,4,6-Trichlorophenol	ug/L	ND	50	48.4	97	37-121	
4,6-Dinitro-2-methylphenol	ug/L	ND	50	55.3	111	27-146	
Hexachloro-1,3-butadiene	ug/L	ND	50	44.8	90	27-116	
Hexachlorocyclopentadiene	ug/L	ND	100	75.7	76	11-120	
Hexachloroethane	ug/L	ND	50	42.9	86	40-113	
Naphthalene	ug/L	ND	50	47.3	95	32-120	
Nitrobenzene	ug/L	ND	50	49.9	100	35-128	
Pentachlorophenol	ug/L	ND	50	60.5	121	38-133	
Phenol	ug/L	ND	50	18.0	36	13-112	
2,4,6-Tribromophenol (S)	%				95	39-119	
2-Fluorobiphenyl (S)	%				94	36-120	
2-Fluorophenol (S)	%				49	18-120	
Nitrobenzene-d5 (S)	%				87	32-120	
Phenol-d6 (S)	%				32	12-120	
Terphenyl-d14 (S)	%				94	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WET/43185
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60151872001

METHOD BLANK: 1246408 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 07:43	

LABORATORY CONTROL SAMPLE: 1246409

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	41.9	105	78-114	

MATRIX SPIKE SAMPLE: 1246412

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	493	40	563	175	78-114	M1

SAMPLE DUPLICATE: 1246413

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	340	296	14	18	

SAMPLE DUPLICATE: 1246414

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	484	456	6	18	

SAMPLE DUPLICATE: 1246415

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	472	506	7	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WET/43184 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60151872001

METHOD BLANK: 1246404 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/03/13 07:38	

LABORATORY CONTROL SAMPLE: 1246405

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.6	103	64-132	

MATRIX SPIKE SAMPLE: 1246406

Parameter	Units	60151790001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	15.5	20	30.1	73	64-132	

SAMPLE DUPLICATE: 1246444

Parameter	Units	60151787001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	14.4	15.4	7	34	

SAMPLE DUPLICATE: 1246445

Parameter	Units	60151792001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	6.6	7.8	16	34	

SAMPLE DUPLICATE: 1246446

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	9.2	6.0	43	34	D6

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WET/43128 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60151872001

METHOD BLANK: 1244293 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	08/29/13 11:05	

SAMPLE DUPLICATE: 1244294

Parameter	Units	60151721002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	215	239	11	25	

SAMPLE DUPLICATE: 1244295

Parameter	Units	60151839002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	65.0	65.0	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WET/43111
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60151872001

SAMPLE DUPLICATE: 1244042

Parameter	Units	60151872001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WET/43106 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60151873001

METHOD BLANK: 1243985 Matrix: Water
Associated Lab Samples: 60151873001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/02/13 12:19	

LABORATORY CONTROL SAMPLE: 1243986

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1243987

Parameter	Units	60151873001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	30100	29400	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WETA/26020 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60151872001

METHOD BLANK: 1245379 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/30/13 16:23	

LABORATORY CONTROL SAMPLE: 1245380

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

MATRIX SPIKE SAMPLE: 1245381

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	749	400	1060	79	90-110	M1

SAMPLE DUPLICATE: 1245382

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	708	718	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

QC Batch: WETA/26075
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60151872001

METHOD BLANK: 1247049 Matrix: Water
Associated Lab Samples: 60151872001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/05/13 14:12	

LABORATORY CONTROL SAMPLE: 1247050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.7	99	90-110	

MATRIX SPIKE SAMPLE: 1247051

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65700	50000	100000	69	90-110	M1

SAMPLE DUPLICATE: 1247053

Parameter	Units	60152283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54200	53000	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
D9	Dissolved result is greater than the total. Data is within laboratory control limits.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-055
Pace Project No.: 60151872

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60151872001	**316-055**	EPA 200.7	MPRP/24054	EPA 200.7	ICP/18811
60151872001	**316-055**	EPA 200.7	MPRP/24028	EPA 200.7	ICP/18782
60151872001	**316-055**	EPA 245.1	MERP/7653	EPA 245.1	MERC/7608
60151872001	**316-055**	EPA 245.1	MERP/7652	EPA 245.1	MERC/7607
60151872001	**316-055**	EPA 625	OEXT/40115	EPA 625	MSSV/12709
60151872001	**316-055**	EPA 624 Low	MSV/55936		
60151872002	**TRIP BLANK**	EPA 624 Low	MSV/55936		
60151872001	**316-055**	EPA 1664A	WET/43185		
60151872001	**316-055**	EPA 1664A	WET/43184		
60151872001	**316-055**	SM 2540D	WET/43128		
60151872001	**316-055**	SM 4500-H+B	WET/43111		
60151873001	**316-055**	SM 5210B	WET/43106	SM 5210B	WET/43201
60151872001	**316-055**	EPA 350.1	WETA/26020		
60151872001	**316-055**	EPA 410.4	WETA/26075		

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Sample Condition Upon Receipt

WO#: 60151872

60151872

Client Name: BARR

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

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: 0.7

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: S 8/28

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. pH
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☒No ☐N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	hno3 add to 316-022 BP3N 5.5/3.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	h2so4 add to 316-022 BP3S 5.5/3.0
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☒Yes ☐No	14. Initial when completed: S Lot # of added preservative:
Trip Blank present:	☒Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): Aug05		15.
Headspace in VOA vials (>6mm):	☒Yes ☐No ☐N/A	5 of 5 316-055 FOOTNOTE PACED ON HISTORICAL
		16.
Project sampled in USDA Regulated Area:	☐Yes ☒No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/29/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60151872
1	316-055 3(AG1U), 3(AG1H)	OT	G	8/27/13	0725	BP3U, BP2U			13	9	1	1	2	BP3S	S.S	BP3S	S.S	N	X	X	X	X	X	X	X	X	X	X	5(DG9H)			METALS LIST total & LF Dis:	C01
2	TRIP BLANK 2(DG9H)								2	2																X						Al,Sb,As,Be,Cd,Cr,	C02
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Emily Hoeper	8-27-13	1640	[illegible]	8/27/13	1640				
SITE ADDRESS: BRIDGETON LF				Shandella McKay/FSA	8/28	0220	0.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	John Powell
SIGNATURE of SAMPLER:	[signature]
DATE Signed:	08-27-13

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

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Sample Condition Upon Receipt

WO#: 60151873

60151873

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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: 0.7

Temperature should be above freezing to 6°C

Date and initials of person examining contents: S 8/28

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A S 8/28	6. BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☒No ☐N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC:	☒Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☐Yes ☒No ☐N/A	
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☒No	Initial when completed / Lot # of added preservative
Trip Blank present:	☐Yes ☒No ☐N/A	
Pace Trip Blank lot # (if purchased): _____		15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☒No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/29/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-055 BP24	OT	G	8/27/13	0725				1	1									X		6015187 3 (AGU4) C01
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

8/28

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299		8-27-13	640							
SITE ADDRESS: BRIDGETON LF				Stadella MGS/184	8/28	0220	0.7	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE		
PRINT Name of SAMPLER:	John Powell	
SIGNATURE of SAMPLER:		DATE Signed: 08-27-13

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September 06, 2013

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

RE: Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 29, 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 316-056
Pace Project No.: 60152008

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 316-056
Pace Project No.: 60152008

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152008001	**316-056**	Water	08/28/13 08:15	08/29/13 00:45
60152008002	**TRIP BLANK**	Water	08/28/13 08:15	08/29/13 00:45
60152007001	**316-056**	Water	08/28/13 08:15	08/29/13 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60152008001	**316-056**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	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
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60152008002	**TRIP BLANK**	EPA 624 Low	JKL	25
60152007001	**316-056**	SM 5210B	DJR	1

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Sample: 316-056 **Lab ID: 60152008001** Collected: 08/28/13 08:15 Received: 08/29/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**5770**	ug/L	150	2	09/04/13 16:45	09/05/13 12:36	7429-90-5	
Antimony	**48.6**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:36	7440-36-0	
Arsenic	**668**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:36	7440-38-2	
Beryllium	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 13:15	7440-41-7	D3
Cadmium	**12.2**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:36	7440-43-9	
Chromium	**245**	ug/L	25.0	5	09/04/13 16:45	09/05/13 13:15	7440-47-3	
Cobalt	**50.3**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:36	7440-48-4	
Copper	ND	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:36	7440-50-8	D3
Iron	**640000**	ug/L	100	2	09/04/13 16:45	09/05/13 12:36	7439-89-6	
Lead	**140**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:36	7439-92-1	
Nickel	**126**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:36	7440-02-0	
Selenium	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 13:15	7782-49-2	D3
Silver	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 12:36	7440-22-4	D3
Thallium	ND	ug/L	100	5	09/04/13 16:45	09/05/13 13:15	7440-28-0	D3
Zinc	**12200**	ug/L	1000	20	09/04/13 16:45	09/05/13 14:02	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2830**	ug/L	150	2	09/04/13 16:45	09/05/13 15:56	7429-90-5	
Antimony, Dissolved	**39.8**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:56	7440-36-0	
Arsenic, Dissolved	**630**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:56	7440-38-2	
Beryllium, Dissolved	ND	ug/L	20.0	20	09/04/13 16:45	09/05/13 17:44	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:56	7440-43-9	D3
Chromium, Dissolved	**219**	ug/L	25.0	5	09/04/13 16:45	09/05/13 17:02	7440-47-3	
Cobalt, Dissolved	**43.4**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:56	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:56	7440-50-8	D3
Iron, Dissolved	**433000**	ug/L	100	2	09/04/13 16:45	09/05/13 15:56	7439-89-6	
Lead, Dissolved	**76.7**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:56	7439-92-1	
Nickel, Dissolved	**123**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:56	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 17:02	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 15:56	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	09/04/13 16:45	09/05/13 17:02	7440-28-0	D3
Zinc, Dissolved	**11000**	ug/L	1000	20	09/04/13 16:45	09/05/13 17:44	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**0.43**	ug/L	0.20	1	09/05/13 08:37	09/05/13 13:11	7439-97-6	
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/05/13 15:30	09/06/13 09:05	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	08/30/13 00:00	09/03/13 17:03	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	67-72-1	
Naphthalene	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Sample: 316-056 **Lab ID: 60152008001** Collected: 08/28/13 08:15 Received: 08/29/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	87-86-5	
Phenol	**8140**	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	08/30/13 00:00	09/03/13 17:03	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	08/30/13 00:00	09/03/13 17:03	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	08/30/13 00:00	09/03/13 17:03	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	08/30/13 00:00	09/03/13 17:03	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	08/30/13 00:00	09/03/13 17:03	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	08/30/13 00:00	09/03/13 17:03	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	08/30/13 00:00	09/03/13 17:03	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/30/13 15:41	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/30/13 15:41	75-27-4	
Bromoform	ND	ug/L	200	200		08/30/13 15:41	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/30/13 15:41	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/30/13 15:41	56-23-5	
Chloroethane	ND	ug/L	200	200		08/30/13 15:41	75-00-3	
Chloroform	**205**	ug/L	200	200		08/30/13 15:41	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/30/13 15:41	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/30/13 15:41	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 15:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 15:41	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/30/13 15:41	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/30/13 15:41	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/30/13 15:41	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/30/13 15:41	127-18-4	
Toluene	ND	ug/L	200	200		08/30/13 15:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/30/13 15:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/30/13 15:41	79-00-5	L2
Trichloroethene	ND	ug/L	200	200		08/30/13 15:41	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/30/13 15:41	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/30/13 15:41	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	200		08/30/13 15:41	460-00-4	
Toluene-d8 (S)	97	%	80-120	200		08/30/13 15:41	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		08/30/13 15:41	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/30/13 15:41		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**568**	mg/L	5.0	1		09/03/13 15:07		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**13.1**	mg/L	5.0	1		09/04/13 12:11		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Sample: 316-056 **Lab ID: 60152008001** Collected: 08/28/13 08:15 Received: 08/29/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**3800**	mg/L	5.0	1		09/04/13 13:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.6**	Std. Units	0.10	1		08/29/13 17:30		H6
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**682**	mg/L	20.0	200		08/30/13 16:27	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**61900**	mg/L	5000	500		09/03/13 10:49		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Sample: TRIP BLANK **Lab ID: 60152008002** Collected: 08/28/13 08:15 Received: 08/29/13 00:45 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		08/30/13 14:15	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/30/13 14:15	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/30/13 14:15	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/30/13 14:15	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/30/13 14:15	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/30/13 14:15	75-00-3	
Chloroform	**1.0**	ug/L	1.0	1		08/30/13 14:15	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/30/13 14:15	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/30/13 14:15	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 14:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 14:15	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/30/13 14:15	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/30/13 14:15	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/30/13 14:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/30/13 14:15	127-18-4	
Toluene	ND	ug/L	1.0	1		08/30/13 14:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/30/13 14:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/30/13 14:15	79-00-5	L2
Trichloroethene	ND	ug/L	1.0	1		08/30/13 14:15	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/30/13 14:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/30/13 14:15	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		08/30/13 14:15	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/30/13 14:15	2037-26-5	
1,2-Dichloroethane-d4 (S)	96	%	80-120	1		08/30/13 14:15	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/30/13 14:15		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Sample: 316-056 **Lab ID: 60152007001** Collected: 08/28/13 08:15 Received: 08/29/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	**27500**	mg/L	2.0	1	08/29/13 16:34	09/03/13 09:23		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: MERP/7664
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60152008001

METHOD BLANK: 1247196 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/05/13 12:34	

LABORATORY CONTROL SAMPLE: 1247197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247205 1247206

Parameter	Units	60152102001 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	2.0	2.3	36	42	70-130	14	20	M1

MATRIX SPIKE SAMPLE: 1247207

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1.1	5	9.9	177	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: MERP/7672
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60152008001

METHOD BLANK: 1248210 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/06/13 08:48	

LABORATORY CONTROL SAMPLE: 1248211

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: 1248212 1248213

Parameter	Units	60152326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.0	4.6	61	91	70-130	39	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: MPRP/24109
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60152008001

METHOD BLANK: 1247468 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/05/13 12:19	
Antimony	ug/L	ND	10.0	09/05/13 12:19	
Arsenic	ug/L	ND	10.0	09/05/13 12:19	
Beryllium	ug/L	ND	1.0	09/05/13 12:19	
Cadmium	ug/L	ND	5.0	09/05/13 12:19	
Chromium	ug/L	ND	5.0	09/05/13 12:19	
Cobalt	ug/L	ND	5.0	09/05/13 12:19	
Copper	ug/L	ND	10.0	09/05/13 12:19	
Iron	ug/L	1370	50.0	09/05/13 12:19	
Lead	ug/L	ND	5.0	09/05/13 12:19	
Nickel	ug/L	ND	5.0	09/05/13 12:19	
Selenium	ug/L	ND	15.0	09/05/13 12:19	
Silver	ug/L	ND	7.0	09/05/13 12:19	
Thallium	ug/L	ND	20.0	09/05/13 12:19	
Zinc	ug/L	ND	50.0	09/05/13 12:19	

LABORATORY CONTROL SAMPLE: 1247469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	989	99	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	983	98	85-115	
Iron	ug/L	10000	10800	108	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9140	10000	10000	22400	22000	132	128	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	54.3	1000	1000	785	785	73	73	70-130	0	7	
Arsenic	ug/L	729	1000	1000	1840	1840	111	111	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	919	910	92	91	70-130	1	7	
Cadmium	ug/L	17.2	1000	1000	1080	1070	106	106	70-130	1	10	
Chromium	ug/L	274	1000	1000	1200	1210	93	93	70-130	0	10	
Cobalt	ug/L	59.3	1000	1000	948	941	89	88	70-130	1	6	
Copper	ug/L	24.4	1000	1000	1020	1020	100	99	70-130	0	11	
Iron	ug/L	868000	10000	10000	860000	860000	-84	-80	70-130	0	10	M1
Lead	ug/L	217	1000	1000	1030	1030	82	81	70-130	0	10	
Nickel	ug/L	143	1000	1000	1030	1030	89	88	70-130	1	10	
Selenium	ug/L	ND	1000	1000	997	1000	100	100	70-130	0	10	
Silver	ug/L	ND	500	500	30.1	31.1	5	6	70-130	3	10	M1
Thallium	ug/L	ND	1000	1000	809	792	81	79	70-130	2	6	
Zinc	ug/L	13700	1000	1000	14400	14600	77	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: MPRP/24108
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60152008001

METHOD BLANK: 1247462 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/05/13 15:39	
Antimony, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Arsenic, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Beryllium, Dissolved	ug/L	ND	1.0	09/05/13 15:39	
Cadmium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Chromium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Cobalt, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Copper, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Iron, Dissolved	ug/L	ND	50.0	09/05/13 15:39	
Lead, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Nickel, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Selenium, Dissolved	ug/L	ND	15.0	09/05/13 15:39	
Silver, Dissolved	ug/L	ND	7.0	09/05/13 15:39	
Thallium, Dissolved	ug/L	ND	20.0	09/05/13 15:39	
Zinc, Dissolved	ug/L	ND	50.0	09/05/13 15:39	

LABORATORY CONTROL SAMPLE: 1247463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10100	101	85-115	
Antimony, Dissolved	ug/L	1000	980	98	85-115	
Arsenic, Dissolved	ug/L	1000	961	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	984	98	85-115	
Cobalt, Dissolved	ug/L	1000	990	99	85-115	
Copper, Dissolved	ug/L	1000	950	95	85-115	
Iron, Dissolved	ug/L	10000	9690	97	85-115	
Lead, Dissolved	ug/L	1000	990	99	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	476	95	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 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	2750	20000	20000	13100	12800	52	50	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	41.8	2000	2000	976	997	47	48	70-130	2	7	M1
Arsenic, Dissolved	ug/L	594	2000	2000	1740	1700	57	55	70-130	2	10	M1
Beryllium, Dissolved	ug/L	ND	2000	2000	906	892	45	45	70-130	1	7	M1
Cadmium, Dissolved	ug/L	ND	2000	2000	1090	1080	54	53	70-130	2	10	M1
Chromium, Dissolved	ug/L	216	2000	2000	1150	1130	47	46	70-130	2	10	M1
Cobalt, Dissolved	ug/L	42.6	2000	2000	952	939	45	45	70-130	1	6	M1
Copper, Dissolved	ug/L	ND	2000	2000	1010	1000	50	50	70-130	1	11	M1
Iron, Dissolved	ug/L	418000	20000	20000	434000	409000	81	-43	70-130	6	10	M1
Lead, Dissolved	ug/L	78.3	2000	2000	914	899	42	41	70-130	2	10	M1
Nickel, Dissolved	ug/L	123	2000	2000	1040	1020	46	45	70-130	2	10	M1
Selenium, Dissolved	ug/L	ND	2000	2000	1110	1110	56	55	70-130	0	10	M1
Silver, Dissolved	ug/L	ND	1000	1000	34.1	90.3	3	9	70-130	90	10	M1,R1
Thallium, Dissolved	ug/L	ND	2000	2000	836	807	42	40	70-130	4	6	M1
Zinc, Dissolved	ug/L	11300	2000	2000	12400	11700	55	20	70-130	6	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: MSV/55936 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60152008001, 60152008002

METHOD BLANK: 1245309 Matrix: Water
Associated Lab Samples: 60152008001, 60152008002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,2-Dichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/30/13 12:07	
Benzene	ug/L	ND	1.0	08/30/13 12:07	
Bromodichloromethane	ug/L	ND	1.0	08/30/13 12:07	
Bromoform	ug/L	ND	1.0	08/30/13 12:07	
Bromomethane	ug/L	ND	5.0	08/30/13 12:07	
Carbon tetrachloride	ug/L	ND	1.0	08/30/13 12:07	
Chloroethane	ug/L	ND	1.0	08/30/13 12:07	
Chloroform	ug/L	ND	1.0	08/30/13 12:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Ethylbenzene	ug/L	ND	1.0	08/30/13 12:07	
Methylene chloride	ug/L	ND	1.0	08/30/13 12:07	
Tetrachloroethene	ug/L	ND	1.0	08/30/13 12:07	
Toluene	ug/L	ND	1.0	08/30/13 12:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Trichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Vinyl chloride	ug/L	ND	1.0	08/30/13 12:07	
Xylene (Total)	ug/L	ND	3.0	08/30/13 12:07	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/30/13 12:07	
4-Bromofluorobenzene (S)	%	100	80-120	08/30/13 12:07	
Toluene-d8 (S)	%	99	80-120	08/30/13 12:07	

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.2	81	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	16.3	81	59-138	
1,1,2-Trichloroethane	ug/L	20	13.3	67	69-127	L0
1,2-Dichloroethane	ug/L	20	15.3	76	71-129	
1,4-Dichlorobenzene	ug/L	20	18.7	93	68-124	
Benzene	ug/L	20	15.6	78	73-129	
Bromodichloromethane	ug/L	20	14.8	74	63-129	
Bromoform	ug/L	20	14.9	75	52-123	
Bromomethane	ug/L	20	10.4	52	10-160	
Carbon tetrachloride	ug/L	20	17.3	87	70-140	
Chloroethane	ug/L	20	15.5	77	42-160	
Chloroform	ug/L	20	15.0	75	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	15.6	78	56-135	
Tetrachloroethene	ug/L	20	17.6	88	64-143	
Toluene	ug/L	20	15.9	79	70-130	
trans-1,2-Dichloroethene	ug/L	20	14.7	74	67-149	
Trichloroethene	ug/L	20	15.3	76	71-130	
Vinyl chloride	ug/L	20	12.5	62	41-160	
Xylene (Total)	ug/L	60	54.6	91	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1245311

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3540	89	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3550	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2910	73	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3350	84	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3940	99	18-147	
Benzene	ug/L	ND	4000	3440	86	37-151	
Bromodichloromethane	ug/L	ND	4000	3320	83	35-155	
Bromoform	ug/L	ND	4000	3270	82	45-133	
Bromomethane	ug/L	ND	4000	1760	44	10-160	
Carbon tetrachloride	ug/L	ND	4000	3750	94	70-140	
Chloroethane	ug/L	ND	4000	2900	73	14-160	
Chloroform	ug/L	218	4000	3350	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3280	82	19-160	
Ethylbenzene	ug/L	ND	4000	3900	97	37-154	
Methylene chloride	ug/L	ND	4000	3270	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3800	95	64-148	
Toluene	ug/L	ND	4000	3430	86	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3080	77	54-156	
Trichloroethene	ug/L	ND	4000	3300	82	71-157	
Vinyl chloride	ug/L	ND	4000	2370	59	10-160	
Xylene (Total)	ug/L	ND	12000	11600	97	12-153	
1,2-Dichloroethane-d4 (S)	%				101	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 316-056
Pace Project No.: 60152008

QC Batch: OEXT/40171 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60152008001

METHOD BLANK: 1244919 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/03/13 09:48	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/03/13 09:48	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/03/13 09:48	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/03/13 09:48	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/03/13 09:48	
Hexachloroethane	ug/L	ND	5.0	09/03/13 09:48	
Naphthalene	ug/L	ND	5.0	09/03/13 09:48	
Nitrobenzene	ug/L	ND	5.0	09/03/13 09:48	
Pentachlorophenol	ug/L	ND	5.0	09/03/13 09:48	
Phenol	ug/L	ND	5.0	09/03/13 09:48	
2,4,6-Tribromophenol (S)	%	72	39-119	09/03/13 09:48	
2-Fluorobiphenyl (S)	%	76	36-120	09/03/13 09:48	
2-Fluorophenol (S)	%	37	18-120	09/03/13 09:48	
Nitrobenzene-d5 (S)	%	75	32-120	09/03/13 09:48	
Phenol-d6 (S)	%	23	12-120	09/03/13 09:48	
Terphenyl-d14 (S)	%	76	44-120	09/03/13 09:48	

LABORATORY CONTROL SAMPLE: 1244920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	35.0	70	44-120	
2,4,6-Trichlorophenol	ug/L	50	39.3	79	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	52.2	104	31-147	
Hexachloro-1,3-butadiene	ug/L	50	34.3	69	41-116	
Hexachlorocyclopentadiene	ug/L	100	42.2	42	31-120	
Hexachloroethane	ug/L	50	32.5	65	40-113	
Naphthalene	ug/L	50	37.6	75	48-120	
Nitrobenzene	ug/L	50	39.7	79	47-120	
Pentachlorophenol	ug/L	50	41.5	83	43-127	
Phenol	ug/L	50	14.5	29	15-112	
2,4,6-Tribromophenol (S)	%			81	39-119	
2-Fluorobiphenyl (S)	%			81	36-120	
2-Fluorophenol (S)	%			40	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	M4
Phenol-d6 (S)	%			26	12-120	
Terphenyl-d14 (S)	%			82	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WET/43205
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60152008001

METHOD BLANK: 1246759
Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 15:06	

LABORATORY CONTROL SAMPLE: 1246760

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: 1246764

Parameter	Units	60152102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	505	42.6	662	368	78-114	M1

SAMPLE DUPLICATE: 1246763

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	568	553	3	18	

REPORT OF LABORATORY ANALYSIS

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Lenexa, KS 66219
(913)599-5665

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WET/43217 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60152008001

METHOD BLANK: 1247230 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/04/13 12:09	

LABORATORY CONTROL SAMPLE: 1247231

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

MATRIX SPIKE SAMPLE: 1247238

Parameter	Units	60152102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	21.3	25.7	70	64-132	

SAMPLE DUPLICATE: 1247236

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.1	13.7	4	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WET/43219 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60152008001

METHOD BLANK: 1247261 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/04/13 13:33	

SAMPLE DUPLICATE: 1247262

Parameter	Units	60152068001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	14.0	11.0	24	25	

SAMPLE DUPLICATE: 1247263

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	3800	3520	8	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WET/43146
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60152008001

SAMPLE DUPLICATE: 1244837

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.6	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WET/43137
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60152007001

METHOD BLANK: 1244720 Matrix: Water
Associated Lab Samples: 60152007001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/03/13 09:13	

LABORATORY CONTROL SAMPLE: 1244721

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	175	88	85-115	

SAMPLE DUPLICATE: 1244722

Parameter	Units	60150839001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25600	28500	10	17	H1

SAMPLE DUPLICATE: 1244724

Parameter	Units	60152007001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	27500	26100	5	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WETA/26020 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60152008001

METHOD BLANK: 1245379 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/30/13 16:23	

LABORATORY CONTROL SAMPLE: 1245380

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

MATRIX SPIKE SAMPLE: 1245381

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	749	400	1060	79	90-110	M1

SAMPLE DUPLICATE: 1245382

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	708	718	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

QC Batch: WETA/26016
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60152008001

METHOD BLANK: 1245171 Matrix: Water
Associated Lab Samples: 60152008001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/03/13 10:48	

LABORATORY CONTROL SAMPLE: 1245172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.0	108	90-110	

SAMPLE DUPLICATE: 1245174

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	60700	57200	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

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.
H1	Analysis conducted outside the EPA method holding time.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
HS	Results are from sample aliquot taken from VOA vial with headspace (air bubble greater than 6 mm diameter).
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-056
Pace Project No.: 60152008

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152008001	**316-056**	EPA 200.7	MPRP/24109	EPA 200.7	ICP/18843
60152008001	**316-056**	EPA 200.7	MPRP/24108	EPA 200.7	ICP/18842
60152008001	**316-056**	EPA 245.1	MERP/7664	EPA 245.1	MERC/7622
60152008001	**316-056**	EPA 245.1	MERP/7672	EPA 245.1	MERC/7628
60152008001	**316-056**	EPA 625	OEXT/40171	EPA 625	MSSV/12731
60152008001	**316-056**	EPA 624 Low	MSV/55936		
60152008002	**TRIP BLANK**	EPA 624 Low	MSV/55936		
60152008001	**316-056**	EPA 1664A	WET/43205		
60152008001	**316-056**	EPA 1664A	WET/43217		
60152008001	**316-056**	SM 2540D	WET/43219		
60152008001	**316-056**	SM 4500-H+B	WET/43146		
60152007001	**316-056**	SM 5210B	WET/43137	SM 5210B	WET/43196
60152008001	**316-056**	EPA 350.1	WETA/26020		
60152008001	**316-056**	EPA 410.4	WETA/26016		

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www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60152008

60152008

Client Name: BARR

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 3.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: S 8/29

Chain of Custody present:	☒Yes ☐No ☐N/A	1.
Chain of Custody filled out:	☒Yes ☐No ☐N/A	2.
Chain of Custody relinquished:	☒Yes ☐No ☐N/A	3.
Sampler name & signature on COC:	☒Yes ☐No ☐N/A	4.
Samples arrived within holding time:	☒Yes ☐No ☐N/A	5.
Short Hold Time analyses (<72hr):	☒Yes ☐No ☐N/A	6. PH, BOD
Rush Turn Around Time requested:	☐Yes ☒No ☐N/A	7.
Sufficient volume:	☒Yes ☐No ☐N/A	8.
Correct containers used:	☒Yes ☐No ☐N/A	
Pace containers used:	☒Yes ☐No ☐N/A	9.
Containers intact:	☒Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☒No ☐N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☒No ☐N/A	12.
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☒Yes ☐No ☐N/A	13.
All containers needing preservation have been checked.	☒Yes ☐No ☐N/A	Add h2SO4 2.0 to 316-056 BP3S SO/1.5
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes ☒No ☐N/A	Add hno3 2.5 to 316-056 BP3N SO/3.5 14.
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☐Yes ☒No	Initial when completed S — Lot # of added preservative 12510-1-3 12518-1-2
Trip Blank present: Pace Trip Blank lot # (if purchased): _____	☐Yes ☒No ☐N/A	15.
Headspace in VOA vials (>6mm):	☐Yes ☒No ☐N/A	16.
Project sampled in USDA Regulated Area:	☐Yes ☒No ☐N/A	17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: MOVED BOD to Report w/ Remaining Leachates parameters

Project Manager Review: [signature] Date: 8/29/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A
Required Client Information:

Company:	BARR ENGINEERING
Address:	
Email To:	
Phone:	(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:	TABITHA PROVINCE
Company Name:	REPUBLIC SERVICES
Address:	BRIDGETON, MO 63044
Pace Quote Reference:	130426_7588
Pace Project Manager:	Brown, Angie
Pace Profile #:	6787 LINE 2

Regulatory Agency

State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60152008
1	316-0565 (DG9H) 3(AG1H) 3(AG1U)	OT	G	8/28/13	0815	BP2U	BP3U		13	9	1	1	2	BP3	S	S,	BP3	N	X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK 2 (DG9H)								2	2																X						Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	Corrie McFadden	8-28-13	1641	GH 554	8/28/13	1641				
SITE ADDRESS: BRIDGETON LF				Shandell McG / FSA	8/29	0045	3.3	4	4	4
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										
							TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 08-28-13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:		Section B Required Project Information:		Section C Invoice Information:	
Company:	BARR ENGINEERING	Report To:	ED GALBRAITH/BARR	Attention:	TABITHA PROVINCE
Address:		Copy To:	SCOTT FEDAK/FEEZOR	Company Name:	REPUBLIC SERVICES
			DANA BAKER/MARGARET TREANOR -BARR	Address:	BRIDGETON, MO 63044
Email To:		Purchase Order No.	PO 3727110	Pace Quote Reference:	130426_7588
Phone:	(816) 285-8410 Fax	Client Project ID:	BRIDGETON LF	Pace Project Manager:	Brown, Angie
Requested Due Date/TAT:	10 Day (Default)	Container Order Number:		Pace Profile #:	6787 LINE 5

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60152057
1	3116-056	OT	G	8/28/13	0815				1	1									X		BP2U
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Connie McGrath	8.28.13	1641	GH 554	8/28/13	1641				
SITE ADDRESS: BRIDGETON LF				Shandella Mills/BSA	8/29	0045	3.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	John Powell
SIGNATURE of SAMPLER:	DATE Signed: 08-28-13

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Lenexa, KS 66219
(913)599-5665

September 10, 2013

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

RE: Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 30, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

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 316-057
Pace Project No.: 60152102

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152102001	**316-057**	Water	08/29/13 08:10	08/30/13 00:45
60152102002	**TRIP BLANK**	Water	08/29/13 08:10	08/30/13 00:45

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60152102001	**316-057**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	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
60152102002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Sample: 316-057 **Lab ID: 60152102001** Collected: 08/29/13 08:10 Received: 08/30/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**9140**	ug/L	150	2	09/04/13 16:45	09/05/13 12:25	7429-90-5	M1
Antimony	**54.3**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:25	7440-36-0	
Arsenic	**729**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:25	7440-38-2	
Beryllium	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 13:05	7440-41-7	D3
Cadmium	**17.2**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:25	7440-43-9	
Chromium	**274**	ug/L	25.0	5	09/04/13 16:45	09/05/13 13:05	7440-47-3	
Cobalt	**59.3**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:25	7440-48-4	
Copper	**24.4**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:25	7440-50-8	
Iron	**868000**	ug/L	100	2	09/04/13 16:45	09/05/13 12:25	7439-89-6	M1
Lead	**217**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:25	7439-92-1	
Nickel	**143**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:25	7440-02-0	
Selenium	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 13:05	7782-49-2	D3
Silver	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 12:25	7440-22-4	D3,M1
Thallium	ND	ug/L	100	5	09/04/13 16:45	09/05/13 13:05	7440-28-0	D3
Zinc	**13700**	ug/L	1000	20	09/04/13 16:45	09/05/13 13:52	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2750**	ug/L	150	2	09/04/13 16:45	09/05/13 15:45	7429-90-5	M1
Antimony, Dissolved	**41.8**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:45	7440-36-0	M1
Arsenic, Dissolved	**594**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:45	7440-38-2	M1
Beryllium, Dissolved	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 16:33	7440-41-7	D3,M1
Cadmium, Dissolved	ND	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:45	7440-43-9	D3,M1
Chromium, Dissolved	**216**	ug/L	25.0	5	09/04/13 16:45	09/05/13 16:33	7440-47-3	M1
Cobalt, Dissolved	**42.6**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:45	7440-48-4	M1
Copper, Dissolved	ND	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:45	7440-50-8	D3,M1
Iron, Dissolved	**418000**	ug/L	100	2	09/04/13 16:45	09/05/13 15:45	7439-89-6	M1
Lead, Dissolved	**78.3**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:45	7439-92-1	M1
Nickel, Dissolved	**123**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:45	7440-02-0	M1
Selenium, Dissolved	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 16:33	7782-49-2	D3,M1
Silver, Dissolved	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 15:45	7440-22-4	D3,M1, R1
Thallium, Dissolved	ND	ug/L	100	5	09/04/13 16:45	09/05/13 16:33	7440-28-0	D3,M1
Zinc, Dissolved	**11300**	ug/L	1000	20	09/04/13 16:45	09/05/13 17:22	7440-66-6	M1
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	ND	ug/L	0.20	1	09/05/13 08:37	09/05/13 13:14	7439-97-6	M1
245.1 Mercury, Dissolved (LF)	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury, Dissolved	ND	ug/L	0.20	1	09/05/13 15:30	09/06/13 09:08	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	09/05/13 00:00	09/09/13 21:55	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	67-72-1	
Naphthalene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	91-20-3	

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Sample: 316-057 **Lab ID: 60152102001** Collected: 08/29/13 08:10 Received: 08/30/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Nitrobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	98-95-3	
Pentachlorophenol	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	87-86-5	
Phenol	**5450**	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 21:55	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	09/05/13 00:00	09/09/13 21:55	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	09/05/13 00:00	09/09/13 21:55	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	09/05/13 00:00	09/09/13 21:55	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	09/05/13 00:00	09/09/13 21:55	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	09/05/13 00:00	09/09/13 21:55	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	09/05/13 00:00	09/09/13 21:55	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		08/30/13 16:02	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		08/30/13 16:02	75-27-4	
Bromoform	ND	ug/L	200	200		08/30/13 16:02	75-25-2	
Bromomethane	ND	ug/L	1000	200		08/30/13 16:02	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		08/30/13 16:02	56-23-5	
Chloroethane	ND	ug/L	200	200		08/30/13 16:02	75-00-3	
Chloroform	**307**	ug/L	200	200		08/30/13 16:02	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	200	200		08/30/13 16:02	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		08/30/13 16:02	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 16:02	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		08/30/13 16:02	156-60-5	
Ethylbenzene	ND	ug/L	200	200		08/30/13 16:02	100-41-4	
Methylene chloride	ND	ug/L	200	200		08/30/13 16:02	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		08/30/13 16:02	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		08/30/13 16:02	127-18-4	
Toluene	ND	ug/L	200	200		08/30/13 16:02	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		08/30/13 16:02	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		08/30/13 16:02	79-00-5	L2
Trichloroethene	ND	ug/L	200	200		08/30/13 16:02	79-01-6	
Vinyl chloride	ND	ug/L	200	200		08/30/13 16:02	75-01-4	
Xylene (Total)	ND	ug/L	600	200		08/30/13 16:02	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		08/30/13 16:02	460-00-4	
Toluene-d8 (S)	98	%	80-120	200		08/30/13 16:02	2037-26-5	
1,2-Dichloroethane-d4 (S)	101	%	80-120	200		08/30/13 16:02	17060-07-0	
Preservation pH	**6.0**		1.0	200		08/30/13 16:02		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**505**	mg/L	5.0	1		09/03/13 15:07		M1
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**10.8**	mg/L	5.0	1		09/04/13 12:12		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Sample: 316-057 **Lab ID: 60152102001** Collected: 08/29/13 08:10 Received: 08/30/13 00:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**6700**	mg/L	5.0	1		09/05/13 14:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		08/30/13 17:55		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**25200**	mg/L	2.0	1	08/30/13 16:51	09/04/13 09:10		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**708**	mg/L	20.0	200		08/30/13 16:28	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**60700**	mg/L	5000	500		09/03/13 10:49		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Sample: TRIP BLANK **Lab ID: 60152102002** Collected: 08/29/13 08:10 Received: 08/30/13 00:45 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		08/30/13 14:37	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		08/30/13 14:37	75-27-4	
Bromoform	ND	ug/L	1.0	1		08/30/13 14:37	75-25-2	
Bromomethane	ND	ug/L	5.0	1		08/30/13 14:37	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		08/30/13 14:37	56-23-5	
Chloroethane	ND	ug/L	1.0	1		08/30/13 14:37	75-00-3	
Chloroform	**1.0**	ug/L	1.0	1		08/30/13 14:37	67-66-3	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		08/30/13 14:37	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		08/30/13 14:37	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 14:37	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		08/30/13 14:37	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		08/30/13 14:37	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		08/30/13 14:37	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		08/30/13 14:37	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		08/30/13 14:37	127-18-4	
Toluene	ND	ug/L	1.0	1		08/30/13 14:37	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		08/30/13 14:37	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		08/30/13 14:37	79-00-5	L2
Trichloroethene	ND	ug/L	1.0	1		08/30/13 14:37	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		08/30/13 14:37	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		08/30/13 14:37	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	101	%	80-120	1		08/30/13 14:37	460-00-4	
Toluene-d8 (S)	98	%	80-120	1		08/30/13 14:37	2037-26-5	
1,2-Dichloroethane-d4 (S)	98	%	80-120	1		08/30/13 14:37	17060-07-0	
Preservation pH	**6.0**		1.0	1		08/30/13 14:37		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: MERP/7664
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60152102001

METHOD BLANK: 1247196 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/05/13 12:34	

LABORATORY CONTROL SAMPLE: 1247197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247205 1247206

Parameter	Units	60152102001 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	2.0	2.3	36	42	70-130	14	20	M1

MATRIX SPIKE SAMPLE: 1247207

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1.1	5	9.9	177	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: MERP/7672
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60152102001

METHOD BLANK: 1248210 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/06/13 08:48	

LABORATORY CONTROL SAMPLE: 1248211

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: 1248212 1248213

Parameter	Units	60152326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.0	4.6	61	91	70-130	39	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: MPRP/24109
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60152102001

METHOD BLANK: 1247468 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/05/13 12:19	
Antimony	ug/L	ND	10.0	09/05/13 12:19	
Arsenic	ug/L	ND	10.0	09/05/13 12:19	
Beryllium	ug/L	ND	1.0	09/05/13 12:19	
Cadmium	ug/L	ND	5.0	09/05/13 12:19	
Chromium	ug/L	ND	5.0	09/05/13 12:19	
Cobalt	ug/L	ND	5.0	09/05/13 12:19	
Copper	ug/L	ND	10.0	09/05/13 12:19	
Iron	ug/L	1370	50.0	09/05/13 12:19	
Lead	ug/L	ND	5.0	09/05/13 12:19	
Nickel	ug/L	ND	5.0	09/05/13 12:19	
Selenium	ug/L	ND	15.0	09/05/13 12:19	
Silver	ug/L	ND	7.0	09/05/13 12:19	
Thallium	ug/L	ND	20.0	09/05/13 12:19	
Zinc	ug/L	ND	50.0	09/05/13 12:19	

LABORATORY CONTROL SAMPLE: 1247469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	989	99	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	983	98	85-115	
Iron	ug/L	10000	10800	108	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9140	10000	10000	22400	22000	132	128	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	54.3	1000	1000	785	785	73	73	70-130	0	7	
Arsenic	ug/L	729	1000	1000	1840	1840	111	111	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	919	910	92	91	70-130	1	7	
Cadmium	ug/L	17.2	1000	1000	1080	1070	106	106	70-130	1	10	
Chromium	ug/L	274	1000	1000	1200	1210	93	93	70-130	0	10	
Cobalt	ug/L	59.3	1000	1000	948	941	89	88	70-130	1	6	
Copper	ug/L	24.4	1000	1000	1020	1020	100	99	70-130	0	11	
Iron	ug/L	868000	10000	10000	860000	860000	-84	-80	70-130	0	10	M1
Lead	ug/L	217	1000	1000	1030	1030	82	81	70-130	0	10	
Nickel	ug/L	143	1000	1000	1030	1030	89	88	70-130	1	10	
Selenium	ug/L	ND	1000	1000	997	1000	100	100	70-130	0	10	
Silver	ug/L	ND	500	500	30.1	31.1	5	6	70-130	3	10	M1
Thallium	ug/L	ND	1000	1000	809	792	81	79	70-130	2	6	
Zinc	ug/L	13700	1000	1000	14400	14600	77	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: MPRP/24108
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60152102001

METHOD BLANK: 1247462 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/05/13 15:39	
Antimony, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Arsenic, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Beryllium, Dissolved	ug/L	ND	1.0	09/05/13 15:39	
Cadmium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Chromium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Cobalt, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Copper, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Iron, Dissolved	ug/L	ND	50.0	09/05/13 15:39	
Lead, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Nickel, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Selenium, Dissolved	ug/L	ND	15.0	09/05/13 15:39	
Silver, Dissolved	ug/L	ND	7.0	09/05/13 15:39	
Thallium, Dissolved	ug/L	ND	20.0	09/05/13 15:39	
Zinc, Dissolved	ug/L	ND	50.0	09/05/13 15:39	

LABORATORY CONTROL SAMPLE: 1247463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10100	101	85-115	
Antimony, Dissolved	ug/L	1000	980	98	85-115	
Arsenic, Dissolved	ug/L	1000	961	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	984	98	85-115	
Cobalt, Dissolved	ug/L	1000	990	99	85-115	
Copper, Dissolved	ug/L	1000	950	95	85-115	
Iron, Dissolved	ug/L	10000	9690	97	85-115	
Lead, Dissolved	ug/L	1000	990	99	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	476	95	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 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	2750	20000	20000	13100	12800	52	50	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	41.8	2000	2000	976	997	47	48	70-130	2	7	M1
Arsenic, Dissolved	ug/L	594	2000	2000	1740	1700	57	55	70-130	2	10	M1
Beryllium, Dissolved	ug/L	ND	2000	2000	906	892	45	45	70-130	1	7	M1
Cadmium, Dissolved	ug/L	ND	2000	2000	1090	1080	54	53	70-130	2	10	M1
Chromium, Dissolved	ug/L	216	2000	2000	1150	1130	47	46	70-130	2	10	M1
Cobalt, Dissolved	ug/L	42.6	2000	2000	952	939	45	45	70-130	1	6	M1
Copper, Dissolved	ug/L	ND	2000	2000	1010	1000	50	50	70-130	1	11	M1
Iron, Dissolved	ug/L	418000	20000	20000	434000	409000	81	-43	70-130	6	10	M1
Lead, Dissolved	ug/L	78.3	2000	2000	914	899	42	41	70-130	2	10	M1
Nickel, Dissolved	ug/L	123	2000	2000	1040	1020	46	45	70-130	2	10	M1
Selenium, Dissolved	ug/L	ND	2000	2000	1110	1110	56	55	70-130	0	10	M1
Silver, Dissolved	ug/L	ND	1000	1000	34.1	90.3	3	9	70-130	90	10	M1,R1
Thallium, Dissolved	ug/L	ND	2000	2000	836	807	42	40	70-130	4	6	M1
Zinc, Dissolved	ug/L	11300	2000	2000	12400	11700	55	20	70-130	6	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: MSV/55936 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60152102001, 60152102002

METHOD BLANK: 1245309 Matrix: Water
Associated Lab Samples: 60152102001, 60152102002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,2-Dichloroethane	ug/L	ND	1.0	08/30/13 12:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	08/30/13 12:07	
Benzene	ug/L	ND	1.0	08/30/13 12:07	
Bromodichloromethane	ug/L	ND	1.0	08/30/13 12:07	
Bromoform	ug/L	ND	1.0	08/30/13 12:07	
Bromomethane	ug/L	ND	5.0	08/30/13 12:07	
Carbon tetrachloride	ug/L	ND	1.0	08/30/13 12:07	
Chloroethane	ug/L	ND	1.0	08/30/13 12:07	
Chloroform	ug/L	ND	1.0	08/30/13 12:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Ethylbenzene	ug/L	ND	1.0	08/30/13 12:07	
Methylene chloride	ug/L	ND	1.0	08/30/13 12:07	
Tetrachloroethene	ug/L	ND	1.0	08/30/13 12:07	
Toluene	ug/L	ND	1.0	08/30/13 12:07	
trans-1,2-Dichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Trichloroethene	ug/L	ND	1.0	08/30/13 12:07	
Vinyl chloride	ug/L	ND	1.0	08/30/13 12:07	
Xylene (Total)	ug/L	ND	3.0	08/30/13 12:07	
1,2-Dichloroethane-d4 (S)	%	102	80-120	08/30/13 12:07	
4-Bromofluorobenzene (S)	%	100	80-120	08/30/13 12:07	
Toluene-d8 (S)	%	99	80-120	08/30/13 12:07	

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.2	81	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	16.3	81	59-138	
1,1,2-Trichloroethane	ug/L	20	13.3	67	69-127	L0
1,2-Dichloroethane	ug/L	20	15.3	76	71-129	
1,4-Dichlorobenzene	ug/L	20	18.7	93	68-124	
Benzene	ug/L	20	15.6	78	73-129	
Bromodichloromethane	ug/L	20	14.8	74	63-129	
Bromoform	ug/L	20	14.9	75	52-123	
Bromomethane	ug/L	20	10.4	52	10-160	
Carbon tetrachloride	ug/L	20	17.3	87	70-140	
Chloroethane	ug/L	20	15.5	77	42-160	
Chloroform	ug/L	20	15.0	75	60-120	
cis-1,2-Dichloroethene	ug/L	20	15.3	76	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

LABORATORY CONTROL SAMPLE: 1245310

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	18.0	90	66-133	
Methylene chloride	ug/L	20	15.6	78	56-135	
Tetrachloroethene	ug/L	20	17.6	88	64-143	
Toluene	ug/L	20	15.9	79	70-130	
trans-1,2-Dichloroethene	ug/L	20	14.7	74	67-149	
Trichloroethene	ug/L	20	15.3	76	71-130	
Vinyl chloride	ug/L	20	12.5	62	41-160	
Xylene (Total)	ug/L	60	54.6	91	67-130	
1,2-Dichloroethane-d4 (S)	%			102	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			98	80-120	

MATRIX SPIKE SAMPLE: 1245311

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3540	89	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	3550	89	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	2910	73	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3350	84	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3940	99	18-147	
Benzene	ug/L	ND	4000	3440	86	37-151	
Bromodichloromethane	ug/L	ND	4000	3320	83	35-155	
Bromoform	ug/L	ND	4000	3270	82	45-133	
Bromomethane	ug/L	ND	4000	1760	44	10-160	
Carbon tetrachloride	ug/L	ND	4000	3750	94	70-140	
Chloroethane	ug/L	ND	4000	2900	73	14-160	
Chloroform	ug/L	218	4000	3350	78	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3280	82	19-160	
Ethylbenzene	ug/L	ND	4000	3900	97	37-154	
Methylene chloride	ug/L	ND	4000	3270	80	15-156	
Tetrachloroethene	ug/L	ND	4000	3800	95	64-148	
Toluene	ug/L	ND	4000	3430	86	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3080	77	54-156	
Trichloroethene	ug/L	ND	4000	3300	82	71-157	
Vinyl chloride	ug/L	ND	4000	2370	59	10-160	
Xylene (Total)	ug/L	ND	12000	11600	97	12-153	
1,2-Dichloroethane-d4 (S)	%				101	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 316-057
Pace Project No.: 60152102

QC Batch: OEXT/40248
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60152102001

METHOD BLANK: 1247598
Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/09/13 20:31	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/09/13 20:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachloroethane	ug/L	ND	5.0	09/09/13 20:31	
Naphthalene	ug/L	ND	5.0	09/09/13 20:31	
Nitrobenzene	ug/L	ND	5.0	09/09/13 20:31	
Pentachlorophenol	ug/L	ND	5.0	09/09/13 20:31	
Phenol	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Tribromophenol (S)	%	85	39-119	09/09/13 20:31	
2-Fluorobiphenyl (S)	%	90	36-120	09/09/13 20:31	
2-Fluorophenol (S)	%	42	18-120	09/09/13 20:31	
Nitrobenzene-d5 (S)	%	79	32-120	09/09/13 20:31	
Phenol-d6 (S)	%	27	12-120	09/09/13 20:31	
Terphenyl-d14 (S)	%	103	44-120	09/09/13 20:31	

LABORATORY CONTROL SAMPLE: 1247599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.9	88	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	39.5	79	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.5	81	41-116	
Hexachlorocyclopentadiene	ug/L	100	74.2	74	31-120	
Hexachloroethane	ug/L	50	38.3	77	40-113	
Naphthalene	ug/L	50	41.5	83	48-120	
Nitrobenzene	ug/L	50	42.4	85	47-120	
Pentachlorophenol	ug/L	50	48.0	96	43-127	
Phenol	ug/L	50	12.9	26	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			88	36-120	
2-Fluorophenol (S)	%			40	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	M4
Phenol-d6 (S)	%			25	12-120	
Terphenyl-d14 (S)	%			92	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WET/43205 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60152102001

METHOD BLANK: 1246759 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/03/13 15:06	

LABORATORY CONTROL SAMPLE: 1246760

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: 1246764

Parameter	Units	60152102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	505	42.6	662	368	78-114	M1

SAMPLE DUPLICATE: 1246763

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	568	553	3	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WET/43217 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60152102001

METHOD BLANK: 1247230 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/04/13 12:09	

LABORATORY CONTROL SAMPLE: 1247231

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

MATRIX SPIKE SAMPLE: 1247238

Parameter	Units	60152102001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	10.8	21.3	25.7	70	64-132	

SAMPLE DUPLICATE: 1247236

Parameter	Units	60152008001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	13.1	13.7	4	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WET/43245 Analysis Method: SM 2540D
QC Batch Method: SM 2540D Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60152102001

METHOD BLANK: 1248182 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/05/13 14:05	

SAMPLE DUPLICATE: 1248183

Parameter	Units	60152105002 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	27.0	21.0	25	25	

SAMPLE DUPLICATE: 1248184

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	6700	6720	0	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WET/43172
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60152102001

SAMPLE DUPLICATE: 1245874

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.7	0	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WET/43165 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60152102001

METHOD BLANK: 1245622 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/04/13 09:06	

LABORATORY CONTROL SAMPLE: 1245623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	180	91	85-115	

SAMPLE DUPLICATE: 1245624

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	25200	25700	2	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WETA/26020
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60152102001

METHOD BLANK: 1245379 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	08/30/13 16:23	

LABORATORY CONTROL SAMPLE: 1245380

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

MATRIX SPIKE SAMPLE: 1245381

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	749	400	1060	79	90-110	M1

SAMPLE DUPLICATE: 1245382

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	708	718	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

QC Batch: WETA/26016
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60152102001

METHOD BLANK: 1245171 Matrix: Water
Associated Lab Samples: 60152102001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/03/13 10:48	

LABORATORY CONTROL SAMPLE: 1245172

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	54.0	108	90-110	

SAMPLE DUPLICATE: 1245174

Parameter	Units	60152102001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	60700	57200	6	25	

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QUALIFIERS

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PRL - Pace Reporting Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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ANALYTE QUALIFIERS

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).
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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-057
Pace Project No.: 60152102

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152102001	**316-057**	EPA 200.7	MPRP/24109	EPA 200.7	ICP/18843
60152102001	**316-057**	EPA 200.7	MPRP/24108	EPA 200.7	ICP/18842
60152102001	**316-057**	EPA 245.1	MERP/7664	EPA 245.1	MERC/7622
60152102001	**316-057**	EPA 245.1	MERP/7672	EPA 245.1	MERC/7628
60152102001	**316-057**	EPA 625	OEXT/40248	EPA 625	MSSV/12755
60152102001	**316-057**	EPA 624 Low	MSV/55936		
60152102002	**TRIP BLANK**	EPA 624 Low	MSV/55936		
60152102001	**316-057**	EPA 1664A	WET/43205		
60152102001	**316-057**	EPA 1664A	WET/43217		
60152102001	**316-057**	SM 2540D	WET/43245		
60152102001	**316-057**	SM 4500-H+B	WET/43172		
60152102001	**316-057**	SM 5210B	WET/43165	SM 5210B	WET/43295
60152102001	**316-057**	EPA 350.1	WETA/26020		
60152102001	**316-057**	EPA 410.4	WETA/26016		

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Sample Condition Upon Receipt

WO#: 60152102

60152102

Client Name: Barr Eng.

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 2.3

Temperature should be above freezing to 6°C

Date and initials of person examining contents: 8-30-13 BA

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

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ Date: 8/30/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	60152102
1	316-057 1BP2U 1BP3U 1BP3N3.5 1BP3S3.0	OT	G	8/29/13	0810	3AG1H	3AG1U		13	9	1	1	2	4DG9U				X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK								2	2				2DG9U												X					Al,Sb,As,Be,Cd,Cr,
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Julie Cook	8/29/13	1604	GA 554	8/29/13	1605				
SITE ADDRESS: BRIDGETON LF				Brent Cox / PACE	8-30-13	0045	2.3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: John Powell DATE Signed: 08-29-13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency:

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	60152102
1	316-057	OT	G	8/29/13	0810				1	1									X		IBP24
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	Julie Cloak	8/29/13	1604	DH 554	8/29/13	1605				
SITE ADDRESS: BRIDGETON LF				IPAC	8-30-13	0045	2-3	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE					
PRINT Name of SAMPLER:	John Powell		TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SIGNATURE of SAMPLER:		DATE Signed: 08-29-13				

Pace Analytical Services, Inc.
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September 10, 2013

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

RE: Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Dear Ed Galbraith:
Enclosed are the analytical results for sample(s) received by the laboratory on August 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 316-058
Pace Project No.: 60152198

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 316-058
Pace Project No.: 60152198

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152198001	**316-058**	Water	08/30/13 07:15	08/31/13 00:50
60152198002	**TRIP BLANK**	Water	08/30/13 07:15	08/31/13 00:50

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60152198001	**316-058**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	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
60152198002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Sample: 316-058 **Lab ID: 60152198001** Collected: 08/30/13 07:15 Received: 08/31/13 00:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
200.7 Metals, Total	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum	**12000**	ug/L	150	2	09/04/13 16:45	09/05/13 12:39	7429-90-5	
Antimony	**48.8**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:39	7440-36-0	
Arsenic	**732**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:39	7440-38-2	
Beryllium	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 13:19	7440-41-7	D3
Cadmium	**14.4**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:39	7440-43-9	
Chromium	**260**	ug/L	25.0	5	09/04/13 16:45	09/05/13 13:19	7440-47-3	
Cobalt	**56.0**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:39	7440-48-4	
Copper	**39.4**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:39	7440-50-8	
Iron	**691000**	ug/L	100	2	09/04/13 16:45	09/05/13 12:39	7439-89-6	
Lead	**203**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:39	7439-92-1	
Nickel	**143**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:39	7440-02-0	
Selenium	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 13:19	7782-49-2	D3
Silver	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 12:39	7440-22-4	D3
Thallium	ND	ug/L	100	5	09/04/13 16:45	09/05/13 13:19	7440-28-0	D3
Zinc	**13600**	ug/L	1000	20	09/04/13 16:45	09/05/13 14:05	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**2960**	ug/L	150	2	09/04/13 16:45	09/05/13 15:59	7429-90-5	
Antimony, Dissolved	**45.1**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:59	7440-36-0	
Arsenic, Dissolved	**669**	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:59	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 17:05	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:59	7440-43-9	D3
Chromium, Dissolved	**220**	ug/L	25.0	5	09/04/13 16:45	09/05/13 17:05	7440-47-3	
Cobalt, Dissolved	**44.7**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:59	7440-48-4	
Copper, Dissolved	ND	ug/L	20.0	2	09/04/13 16:45	09/05/13 15:59	7440-50-8	D3
Iron, Dissolved	**418000**	ug/L	100	2	09/04/13 16:45	09/05/13 15:59	7439-89-6	
Lead, Dissolved	**97.1**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:59	7439-92-1	
Nickel, Dissolved	**128**	ug/L	10.0	2	09/04/13 16:45	09/05/13 15:59	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 17:05	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 15:59	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	09/04/13 16:45	09/05/13 17:05	7440-28-0	D3
Zinc, Dissolved	**11500**	ug/L	1000	20	09/04/13 16:45	09/05/13 17:47	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.0**	ug/L	0.20	1	09/05/13 08:37	09/05/13 13:20	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	09/05/13 15:30	09/06/13 09:10	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	09/05/13 00:00	09/09/13 22:16	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	67-72-1	
Naphthalene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Sample: 316-058 **Lab ID: 60152198001** Collected: 08/30/13 07:15 Received: 08/31/13 00:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
Pentachlorophenol	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	87-86-5	
Phenol	**7760**	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:16	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	09/05/13 00:00	09/09/13 22:16	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	09/05/13 00:00	09/09/13 22:16	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	09/05/13 00:00	09/09/13 22:16	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	09/05/13 00:00	09/09/13 22:16	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	09/05/13 00:00	09/09/13 22:16	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	09/05/13 00:00	09/09/13 22:16	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		09/05/13 22:20	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/05/13 22:20	75-27-4	
Bromoform	ND	ug/L	200	200		09/05/13 22:20	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/05/13 22:20	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		09/05/13 22:20	56-23-5	
Chloroethane	ND	ug/L	200	200		09/05/13 22:20	75-00-3	
Chloroform	**303**	ug/L	200	200		09/05/13 22:20	67-66-3	B
1,4-Dichlorobenzene	ND	ug/L	200	200		09/05/13 22:20	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/05/13 22:20	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/05/13 22:20	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/05/13 22:20	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/05/13 22:20	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/05/13 22:20	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/05/13 22:20	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		09/05/13 22:20	127-18-4	
Toluene	ND	ug/L	200	200		09/05/13 22:20	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/05/13 22:20	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/05/13 22:20	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/05/13 22:20	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/05/13 22:20	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/05/13 22:20	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/05/13 22:20	460-00-4	D3
Toluene-d8 (S)	99	%	80-120	200		09/05/13 22:20	2037-26-5	
1,2-Dichloroethane-d4 (S)	100	%	80-120	200		09/05/13 22:20	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/05/13 22:20		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**691**	mg/L	5.0	1		09/05/13 07:26		M1
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**12.6**	mg/L	5.0	1		09/09/13 13:18		

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Sample: 316-058 **Lab ID: 60152198001** Collected: 08/30/13 07:15 Received: 08/31/13 00:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	**5680**	mg/L	5.0	1		09/06/13 14:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/03/13 14:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**38000**	mg/L	2.0	1	08/31/13 10:22	09/05/13 08:58		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**695**	mg/L	20.0	200		09/06/13 09:54	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**53800**	mg/L	10000	1000		09/05/13 14:18		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Sample: TRIP BLANK **Lab ID: 60152198002** Collected: 08/30/13 07:15 Received: 08/31/13 00:50 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		09/05/13 17:00	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/05/13 17:00	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/05/13 17:00	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/05/13 17:00	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		09/05/13 17:00	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/05/13 17:00	75-00-3	
Chloroform	**2.1**	ug/L	1.0	1		09/05/13 17:00	67-66-3	B
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/05/13 17:00	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/05/13 17:00	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/05/13 17:00	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/05/13 17:00	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/05/13 17:00	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/05/13 17:00	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/05/13 17:00	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/05/13 17:00	127-18-4	
Toluene	ND	ug/L	1.0	1		09/05/13 17:00	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/05/13 17:00	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/05/13 17:00	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/05/13 17:00	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/05/13 17:00	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/05/13 17:00	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	1		09/05/13 17:00	460-00-4	
Toluene-d8 (S)	99	%	80-120	1		09/05/13 17:00	2037-26-5	
1,2-Dichloroethane-d4 (S)	99	%	80-120	1		09/05/13 17:00	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/05/13 17:00		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: MERP/7664
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60152198001

METHOD BLANK: 1247196 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/05/13 12:34	

LABORATORY CONTROL SAMPLE: 1247197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247205 1247206

Parameter	Units	60152102001 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	2.0	2.3	36	42	70-130	14	20	M1

MATRIX SPIKE SAMPLE: 1247207

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1.1	5	9.9	177	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: MERP/7672
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60152198001

METHOD BLANK: 1248210 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/06/13 08:48	

LABORATORY CONTROL SAMPLE: 1248211

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: 1248212 1248213

Parameter	Units	60152326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.0	4.6	61	91	70-130	39	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: MPRP/24109
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60152198001

METHOD BLANK: 1247468 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/05/13 12:19	
Antimony	ug/L	ND	10.0	09/05/13 12:19	
Arsenic	ug/L	ND	10.0	09/05/13 12:19	
Beryllium	ug/L	ND	1.0	09/05/13 12:19	
Cadmium	ug/L	ND	5.0	09/05/13 12:19	
Chromium	ug/L	ND	5.0	09/05/13 12:19	
Cobalt	ug/L	ND	5.0	09/05/13 12:19	
Copper	ug/L	ND	10.0	09/05/13 12:19	
Iron	ug/L	1370	50.0	09/05/13 12:19	
Lead	ug/L	ND	5.0	09/05/13 12:19	
Nickel	ug/L	ND	5.0	09/05/13 12:19	
Selenium	ug/L	ND	15.0	09/05/13 12:19	
Silver	ug/L	ND	7.0	09/05/13 12:19	
Thallium	ug/L	ND	20.0	09/05/13 12:19	
Zinc	ug/L	ND	50.0	09/05/13 12:19	

LABORATORY CONTROL SAMPLE: 1247469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	989	99	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	983	98	85-115	
Iron	ug/L	10000	10800	108	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9140	10000	10000	22400	22000	132	128	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	54.3	1000	1000	785	785	73	73	70-130	0	7	
Arsenic	ug/L	729	1000	1000	1840	1840	111	111	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	919	910	92	91	70-130	1	7	
Cadmium	ug/L	17.2	1000	1000	1080	1070	106	106	70-130	1	10	
Chromium	ug/L	274	1000	1000	1200	1210	93	93	70-130	0	10	
Cobalt	ug/L	59.3	1000	1000	948	941	89	88	70-130	1	6	
Copper	ug/L	24.4	1000	1000	1020	1020	100	99	70-130	0	11	
Iron	ug/L	868000	10000	10000	860000	860000	-84	-80	70-130	0	10	M1
Lead	ug/L	217	1000	1000	1030	1030	82	81	70-130	0	10	
Nickel	ug/L	143	1000	1000	1030	1030	89	88	70-130	1	10	
Selenium	ug/L	ND	1000	1000	997	1000	100	100	70-130	0	10	
Silver	ug/L	ND	500	500	30.1	31.1	5	6	70-130	3	10	M1
Thallium	ug/L	ND	1000	1000	809	792	81	79	70-130	2	6	
Zinc	ug/L	13700	1000	1000	14400	14600	77	97	70-130	1	11	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: MPRP/24108
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60152198001

METHOD BLANK: 1247462 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/05/13 15:39	
Antimony, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Arsenic, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Beryllium, Dissolved	ug/L	ND	1.0	09/05/13 15:39	
Cadmium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Chromium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Cobalt, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Copper, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Iron, Dissolved	ug/L	ND	50.0	09/05/13 15:39	
Lead, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Nickel, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Selenium, Dissolved	ug/L	ND	15.0	09/05/13 15:39	
Silver, Dissolved	ug/L	ND	7.0	09/05/13 15:39	
Thallium, Dissolved	ug/L	ND	20.0	09/05/13 15:39	
Zinc, Dissolved	ug/L	ND	50.0	09/05/13 15:39	

LABORATORY CONTROL SAMPLE: 1247463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10100	101	85-115	
Antimony, Dissolved	ug/L	1000	980	98	85-115	
Arsenic, Dissolved	ug/L	1000	961	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	984	98	85-115	
Cobalt, Dissolved	ug/L	1000	990	99	85-115	
Copper, Dissolved	ug/L	1000	950	95	85-115	
Iron, Dissolved	ug/L	10000	9690	97	85-115	
Lead, Dissolved	ug/L	1000	990	99	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	476	95	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 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	2750	20000	20000	13100	12800	52	50	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	41.8	2000	2000	976	997	47	48	70-130	2	7	M1
Arsenic, Dissolved	ug/L	594	2000	2000	1740	1700	57	55	70-130	2	10	M1
Beryllium, Dissolved	ug/L	ND	2000	2000	906	892	45	45	70-130	1	7	M1
Cadmium, Dissolved	ug/L	ND	2000	2000	1090	1080	54	53	70-130	2	10	M1
Chromium, Dissolved	ug/L	216	2000	2000	1150	1130	47	46	70-130	2	10	M1
Cobalt, Dissolved	ug/L	42.6	2000	2000	952	939	45	45	70-130	1	6	M1
Copper, Dissolved	ug/L	ND	2000	2000	1010	1000	50	50	70-130	1	11	M1
Iron, Dissolved	ug/L	418000	20000	20000	434000	409000	81	-43	70-130	6	10	M1
Lead, Dissolved	ug/L	78.3	2000	2000	914	899	42	41	70-130	2	10	M1
Nickel, Dissolved	ug/L	123	2000	2000	1040	1020	46	45	70-130	2	10	M1
Selenium, Dissolved	ug/L	ND	2000	2000	1110	1110	56	55	70-130	0	10	M1
Silver, Dissolved	ug/L	ND	1000	1000	34.1	90.3	3	9	70-130	90	10	M1,R1
Thallium, Dissolved	ug/L	ND	2000	2000	836	807	42	40	70-130	4	6	M1
Zinc, Dissolved	ug/L	11300	2000	2000	12400	11700	55	20	70-130	6	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: MSV/56059 Analysis Method: EPA 624 Low
QC Batch Method: EPA 624 Low Analysis Description: 624 MSV
Associated Lab Samples: 60152198001, 60152198002

METHOD BLANK: 1247912 Matrix: Water
Associated Lab Samples: 60152198001, 60152198002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,2-Dichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/05/13 15:55	
Benzene	ug/L	ND	1.0	09/05/13 15:55	
Bromodichloromethane	ug/L	ND	1.0	09/05/13 15:55	
Bromoform	ug/L	ND	1.0	09/05/13 15:55	
Bromomethane	ug/L	ND	5.0	09/05/13 15:55	
Carbon tetrachloride	ug/L	ND	1.0	09/05/13 15:55	
Chloroethane	ug/L	ND	1.0	09/05/13 15:55	
Chloroform	ug/L	2.0	1.0	09/05/13 15:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Ethylbenzene	ug/L	ND	1.0	09/05/13 15:55	
Methylene chloride	ug/L	ND	1.0	09/05/13 15:55	
Tetrachloroethene	ug/L	ND	1.0	09/05/13 15:55	
Toluene	ug/L	ND	1.0	09/05/13 15:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Trichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Vinyl chloride	ug/L	ND	1.0	09/05/13 15:55	
Xylene (Total)	ug/L	ND	3.0	09/05/13 15:55	
1,2-Dichloroethane-d4 (S)	%	98	80-120	09/05/13 15:55	
4-Bromofluorobenzene (S)	%	100	80-120	09/05/13 15:55	
Toluene-d8 (S)	%	99	80-120	09/05/13 15:55	

LABORATORY CONTROL SAMPLE: 1247913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	22.5	113	59-138	
1,1,2-Trichloroethane	ug/L	20	22.9	114	69-127	
1,2-Dichloroethane	ug/L	20	21.9	110	71-129	
1,4-Dichlorobenzene	ug/L	20	21.6	108	68-124	
Benzene	ug/L	20	20.7	103	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	22.6	113	52-123	
Bromomethane	ug/L	20	20.6	103	10-160	
Carbon tetrachloride	ug/L	20	20.5	102	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	21.6	108	60-120	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

LABORATORY CONTROL SAMPLE: 1247913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	22.3	111	66-133	
Methylene chloride	ug/L	20	18.5	93	56-135	
Tetrachloroethene	ug/L	20	21.6	108	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	67-149	
Trichloroethene	ug/L	20	22.0	110	71-130	
Vinyl chloride	ug/L	20	20.1	101	41-160	
Xylene (Total)	ug/L	60	65.7	110	67-130	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1247914

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3870	97	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4030	101	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3830	96	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3930	98	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3650	91	18-147	
Benzene	ug/L	ND	4000	3850	96	37-151	
Bromodichloromethane	ug/L	ND	4000	3940	98	35-155	
Bromoform	ug/L	ND	4000	3750	94	45-133	
Bromomethane	ug/L	ND	4000	3100	77	10-160	
Carbon tetrachloride	ug/L	ND	4000	3980	100	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	273	4000	4080	89	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3850	96	19-160	
Ethylbenzene	ug/L	ND	4000	3920	98	37-154	
Methylene chloride	ug/L	ND	4000	3550	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	3790	95	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-156	
Trichloroethene	ug/L	ND	4000	3850	96	71-157	
Vinyl chloride	ug/L	ND	4000	3940	98	10-160	
Xylene (Total)	ug/L	ND	12000	11600	97	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: OEXT/40248
QC Batch Method: EPA 625
Analysis Method: EPA 625
Analysis Description: 625 MSS
Associated Lab Samples: 60152198001

METHOD BLANK: 1247598
Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/09/13 20:31	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/09/13 20:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachloroethane	ug/L	ND	5.0	09/09/13 20:31	
Naphthalene	ug/L	ND	5.0	09/09/13 20:31	
Nitrobenzene	ug/L	ND	5.0	09/09/13 20:31	
Pentachlorophenol	ug/L	ND	5.0	09/09/13 20:31	
Phenol	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Tribromophenol (S)	%	85	39-119	09/09/13 20:31	
2-Fluorobiphenyl (S)	%	90	36-120	09/09/13 20:31	
2-Fluorophenol (S)	%	42	18-120	09/09/13 20:31	
Nitrobenzene-d5 (S)	%	79	32-120	09/09/13 20:31	
Phenol-d6 (S)	%	27	12-120	09/09/13 20:31	
Terphenyl-d14 (S)	%	103	44-120	09/09/13 20:31	

LABORATORY CONTROL SAMPLE: 1247599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.9	88	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	39.5	79	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.5	81	41-116	
Hexachlorocyclopentadiene	ug/L	100	74.2	74	31-120	
Hexachloroethane	ug/L	50	38.3	77	40-113	
Naphthalene	ug/L	50	41.5	83	48-120	
Nitrobenzene	ug/L	50	42.4	85	47-120	
Pentachlorophenol	ug/L	50	48.0	96	43-127	
Phenol	ug/L	50	12.9	26	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			88	36-120	
2-Fluorophenol (S)	%			40	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	M4
Phenol-d6 (S)	%			25	12-120	
Terphenyl-d14 (S)	%			92	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WET/43223 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60152198001

METHOD BLANK: 1247394 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/05/13 07:22	

LABORATORY CONTROL SAMPLE: 1247395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.1	90	78-114	

MATRIX SPIKE SAMPLE: 1247398

Parameter	Units	60152198001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	691	41.7	694	8	78-114	M1

SAMPLE DUPLICATE: 1247399

Parameter	Units	60152236001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	711	739	4	18	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WET/43296 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60152198001

METHOD BLANK: 1250005 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/13 13:17	

LABORATORY CONTROL SAMPLE: 1250006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.8	104	64-132	

MATRIX SPIKE SAMPLE: 1250012

Parameter	Units	60152198001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	12.6	20.8	26.4	66	64-132	

SAMPLE DUPLICATE: 1250013

Parameter	Units	60152236001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.6	11.1	4	34	

SAMPLE DUPLICATE: 1250110

Parameter	Units	60152237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	21.4	22.0	3	34	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WET/43266
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60152198001

METHOD BLANK: 1249025
Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/06/13 14:54	

SAMPLE DUPLICATE: 1249026

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5680	5460	4	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WET/43203
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60152198001

SAMPLE DUPLICATE: 1246731

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.8	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WET/43176 Analysis Method: SM 5210B
QC Batch Method: SM 5210B Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60152198001

METHOD BLANK: 1245982 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/05/13 08:55	

LABORATORY CONTROL SAMPLE: 1245983

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	183	93	85-115	

SAMPLE DUPLICATE: 1245984

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	38000	39000	3	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WETA/26091 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60152198001

METHOD BLANK: 1247680 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/06/13 09:52	

LABORATORY CONTROL SAMPLE: 1247681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1247683

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	706	400	1070	91	90-110	

SAMPLE DUPLICATE: 1247682

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	695	687	1	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

QC Batch: WETA/26075
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 60152198001

METHOD BLANK: 1247049 Matrix: Water
Associated Lab Samples: 60152198001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/05/13 14:12	

LABORATORY CONTROL SAMPLE: 1247050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.7	99	90-110	

MATRIX SPIKE SAMPLE: 1247051

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65700	50000	100000	69	90-110	M1

SAMPLE DUPLICATE: 1247053

Parameter	Units	60152283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54200	53000	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

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

B	Analyte was detected in the associated method blank.
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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-058
Pace Project No.: 60152198

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152198001	**316-058**	EPA 200.7	MPRP/24109	EPA 200.7	ICP/18843
60152198001	**316-058**	EPA 200.7	MPRP/24108	EPA 200.7	ICP/18842
60152198001	**316-058**	EPA 245.1	MERP/7664	EPA 245.1	MERC/7622
60152198001	**316-058**	EPA 245.1	MERP/7672	EPA 245.1	MERC/7628
60152198001	**316-058**	EPA 625	OEXT/40248	EPA 625	MSSV/12755
60152198001	**316-058**	EPA 624 Low	MSV/56059		
60152198002	**TRIP BLANK**	EPA 624 Low	MSV/56059		
60152198001	**316-058**	EPA 1664A	WET/43223		
60152198001	**316-058**	EPA 1664A	WET/43296		
60152198001	**316-058**	SM 2540D	WET/43266		
60152198001	**316-058**	SM 4500-H+B	WET/43203		
60152198001	**316-058**	SM 5210B	WET/43176	SM 5210B	WET/43297
60152198001	**316-058**	EPA 350.1	WETA/26091		
60152198001	**316-058**	EPA 410.4	WETA/26075		

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~~60152235~~ ~~KS~~ 9/3/13

WO#: 60152198

60152198

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www.pacelabs.com

Sample Condition Upon Receipt

Client Name: Barr Eng.

Courier: Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other ☑ x-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 ☑ Zplc

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

Cooler Temperature: 1.1

Temperature should be above freezing to 6°C

Optional
Proj Due Date:
Proj Name:

Date and initials of person examining contents: 8/31/13 [illegible]

Chain of Custody present:	☑Yes	☐No	☐N/A
Chain of Custody filled out:	☑Yes	☐No	☐N/A
Chain of Custody relinquished:	☑Yes	☐No	☐N/A
Sampler name & signature on COC:	☑Yes	☐No	☐N/A
Samples arrived within holding time:	☑Yes	☐No	☐N/A
Short Hold Time analyses (<72hr):	☑Yes	☐No	☐N/A
Rush Turn Around Time requested:	☐Yes	☑No	☐N/A
Sufficient volume:	☑Yes	☐No	☐N/A
Correct containers used:	☑Yes	☐No	☐N/A
Pace containers used:	☑Yes	☐No	☐N/A
Containers intact:	☑Yes	☐No	☐N/A
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes	☐No	☑N/A
Filtered volume received for dissolved tests?	☐Yes	☐No	☑N/A
Sample labels match COC: Includes date/time/ID/analyses Matrix: WT	☑Yes	☐No	☐N/A
All containers needing preservation have been checked.	☑Yes	☐No	☐N/A
All containers needing preservation are found to be in compliance with EPA recommendation.	☐Yes	☑No	☐N/A
Exceptions: VOA, coliform, TOC, O&G, WI-DRO (water), Phenolics	☑Yes	☐No	
Trip Blank present: Pace Trip Blank lot # (if purchased): 071513-3	☑Yes	☐No	☐N/A
Headspace in VOA vials (>6mm):	☑Yes	☐No	☐N/A
Project sampled in USDA Regulated Area:	☐Yes	☐No	☑N/A

1.
2.
3.
4.
5.
6. BOD
7.
8.
9.
10.
11.
12.
13.
14. initial ph for BP3N & BP3S 4-5, added H2SO4 final ph BP3N 4.0, final ph BP3S 3.0

Initial when completed: [illegible] Lot # of added preservative: 12510-1-3

15.
16. 5 of 5 Dhqu Apply FOOTNOTE BASED ON HISTORICAL
17. List State:

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

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: MW for AKS Date: 8/31/13

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency
State / Location: Missouri

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

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Requested Analysis Filtered (Y/N) Y/N	Analyses Test: BOD SM 5210B	Residual Chlorine (Y/N)	60152498
1	316-058	OT	G	8/30/13	0715				1	1									X		BP2U CU
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: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	Connie Fedak	8/30/13	16:26	GH 534	8/30/13	1626				
SITE ADDRESS: BRIDGETON LF				E Brockett / Pace	8/31/13	0050	1.1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE	
PRINT Name of SAMPLER:	John Powell
SIGNATURE of SAMPLER:	
DATE Signed:	08-30-13

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

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

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

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	~~60152198~~ 60152235
1	316-058 5DH9U, 3AG1U, 3AG1H	OT	G	8/30/13	0715	BP2U,	BP3U		13	9	1	1	2	BP3N	40,	BP3S	3-0		X	X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis:
2	TRIP BLANK 2DH9U (TB)								2	2																X						Al,Sb,As,Be,Cd,Cr,
3																																Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																																and Mercury
5																																
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
SITE CONTACT: BILL ABERNATHY 314-502-1299	[signature]	8/30/13		[signature] 554	8/30/13	1626				
SITE ADDRESS: BRIDGETON LF				E Brockett 1 Pace	8/31/13	0050	1-1	Y	Y	Y
13570 ST. CHARLES ROCK RD										
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Powell

SIGNATURE of SAMPLER: [signature]

DATE Signed: 08-30-13

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

September 10, 2013

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

RE: Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

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

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

Sincerely,

Angie Brown

Angie.Brown@pacelabs.com
Project Manager

Enclosures

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

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CERTIFICATIONS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

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 316-059
Pace Project No.: 60152236

Lab ID	Sample ID	Matrix	Date Collected	Date Received
60152236001	**316-059**	Water	08/31/13 16:10	09/02/13 13:00
60152236002	**TRIP BLANK**	Water	08/31/13 16:10	09/02/13 13:00

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SAMPLE ANALYTE COUNT

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Lab ID	Sample ID	Method	Analysts	Analytes Reported
60152236001	**316-059**	EPA 200.7	JGP	15
		EPA 200.7	JGP	15
		EPA 245.1	TDS	1
		EPA 245.1	TDS	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	JML	1
		EPA 350.1	NDL	1
		EPA 410.4	NDL	1
60152236002	**TRIP BLANK**	EPA 624 Low	JKL	25

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Sample: 316-059 **Lab ID: 60152236001** Collected: 08/31/13 16:10 Received: 09/02/13 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	**31600**	ug/L	150	2	09/04/13 16:45	09/05/13 12:58	7429-90-5	
Antimony	**46.0**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:58	7440-36-0	
Arsenic	**767**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:58	7440-38-2	
Beryllium	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 13:22	7440-41-7	D3
Cadmium	**26.4**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:58	7440-43-9	
Chromium	**324**	ug/L	25.0	5	09/04/13 16:45	09/05/13 13:22	7440-47-3	
Cobalt	**71.2**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:58	7440-48-4	
Copper	**151**	ug/L	20.0	2	09/04/13 16:45	09/05/13 12:58	7440-50-8	
Iron	**853000**	ug/L	100	2	09/04/13 16:45	09/05/13 15:16	7439-89-6	
Lead	**618**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:58	7439-92-1	
Nickel	**350**	ug/L	10.0	2	09/04/13 16:45	09/05/13 12:58	7440-02-0	
Selenium	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 13:22	7782-49-2	D3
Silver	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 12:58	7440-22-4	D3
Thallium	ND	ug/L	100	5	09/04/13 16:45	09/05/13 13:22	7440-28-0	D3
Zinc	**17600**	ug/L	1000	20	09/04/13 16:45	09/05/13 14:08	7440-66-6	
200.7 Metals, Dissolved (LF)	Analytical Method: EPA 200.7 Preparation Method: EPA 200.7							
Aluminum, Dissolved	**3450**	ug/L	150	2	09/04/13 16:45	09/05/13 16:19	7429-90-5	
Antimony, Dissolved	**50.2**	ug/L	20.0	2	09/04/13 16:45	09/05/13 16:19	7440-36-0	D9
Arsenic, Dissolved	**668**	ug/L	20.0	2	09/04/13 16:45	09/05/13 16:19	7440-38-2	
Beryllium, Dissolved	ND	ug/L	5.0	5	09/04/13 16:45	09/05/13 17:09	7440-41-7	D3
Cadmium, Dissolved	ND	ug/L	10.0	2	09/04/13 16:45	09/05/13 16:19	7440-43-9	D3
Chromium, Dissolved	**216**	ug/L	25.0	5	09/04/13 16:45	09/05/13 17:09	7440-47-3	
Cobalt, Dissolved	**46.5**	ug/L	10.0	2	09/04/13 16:45	09/05/13 16:19	7440-48-4	
Copper, Dissolved	**36.3**	ug/L	20.0	2	09/04/13 16:45	09/05/13 16:19	7440-50-8	
Iron, Dissolved	**415000**	ug/L	100	2	09/04/13 16:45	09/06/13 09:13	7439-89-6	
Lead, Dissolved	**200**	ug/L	10.0	2	09/04/13 16:45	09/05/13 16:19	7439-92-1	
Nickel, Dissolved	**249**	ug/L	10.0	2	09/04/13 16:45	09/05/13 16:19	7440-02-0	
Selenium, Dissolved	ND	ug/L	75.0	5	09/04/13 16:45	09/05/13 17:09	7782-49-2	D3
Silver, Dissolved	ND	ug/L	14.0	2	09/04/13 16:45	09/05/13 16:19	7440-22-4	D3
Thallium, Dissolved	ND	ug/L	100	5	09/04/13 16:45	09/05/13 17:09	7440-28-0	D3
Zinc, Dissolved	**13100**	ug/L	1000	20	09/04/13 16:45	09/05/13 17:51	7440-66-6	
245.1 Mercury	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1							
Mercury	**1.8**	ug/L	0.20	1	09/05/13 08:37	09/05/13 13:27	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	09/05/13 15:30	09/06/13 09:12	7439-97-6	
625 MSSV	Analytical Method: EPA 625 Preparation Method: EPA 625							
4,6-Dinitro-2-methylphenol	ND	ug/L	5000	20	09/05/13 00:00	09/09/13 22:37	534-52-1	
Hexachloro-1,3-butadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	87-68-3	
Hexachlorocyclopentadiene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	77-47-4	
Hexachloroethane	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	67-72-1	
Naphthalene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	91-20-3	
Nitrobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	98-95-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Sample: 316-059 **Lab ID: 60152236001** Collected: 08/31/13 16:10 Received: 09/02/13 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	20	09/05/13 00:00	09/09/13 22:37	87-86-5	
Phenol	**7420**	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	108-95-2	
1,2,4-Trichlorobenzene	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	120-82-1	
2,4,6-Trichlorophenol	ND	ug/L	1000	20	09/05/13 00:00	09/09/13 22:37	88-06-2	
Surrogates								
Nitrobenzene-d5 (S)	0	%	32-120	20	09/05/13 00:00	09/09/13 22:37	4165-60-0	S4
2-Fluorobiphenyl (S)	0	%	36-120	20	09/05/13 00:00	09/09/13 22:37	321-60-8	S4
Terphenyl-d14 (S)	0	%	44-120	20	09/05/13 00:00	09/09/13 22:37	1718-51-0	S4
Phenol-d6 (S)	0	%	12-120	20	09/05/13 00:00	09/09/13 22:37	13127-88-3	S4
2-Fluorophenol (S)	0	%	18-120	20	09/05/13 00:00	09/09/13 22:37	367-12-4	S4
2,4,6-Tribromophenol (S)	0	%	39-119	20	09/05/13 00:00	09/09/13 22:37	118-79-6	S4
624 Volatile Organics	Analytical Method: EPA 624 Low							
Benzene	ND	ug/L	200	200		09/05/13 22:42	71-43-2	
Bromodichloromethane	ND	ug/L	200	200		09/05/13 22:42	75-27-4	
Bromoform	ND	ug/L	200	200		09/05/13 22:42	75-25-2	
Bromomethane	ND	ug/L	1000	200		09/05/13 22:42	74-83-9	
Carbon tetrachloride	ND	ug/L	200	200		09/05/13 22:42	56-23-5	
Chloroethane	ND	ug/L	200	200		09/05/13 22:42	75-00-3	
Chloroform	**270**	ug/L	200	200		09/05/13 22:42	67-66-3	B
1,4-Dichlorobenzene	ND	ug/L	200	200		09/05/13 22:42	106-46-7	
1,2-Dichloroethane	ND	ug/L	200	200		09/05/13 22:42	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	200	200		09/05/13 22:42	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	200	200		09/05/13 22:42	156-60-5	
Ethylbenzene	ND	ug/L	200	200		09/05/13 22:42	100-41-4	
Methylene chloride	ND	ug/L	200	200		09/05/13 22:42	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	200	200		09/05/13 22:42	79-34-5	
Tetrachloroethene	ND	ug/L	200	200		09/05/13 22:42	127-18-4	
Toluene	ND	ug/L	200	200		09/05/13 22:42	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	200	200		09/05/13 22:42	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	200	200		09/05/13 22:42	79-00-5	
Trichloroethene	ND	ug/L	200	200		09/05/13 22:42	79-01-6	
Vinyl chloride	ND	ug/L	200	200		09/05/13 22:42	75-01-4	
Xylene (Total)	ND	ug/L	600	200		09/05/13 22:42	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	99	%	80-120	200		09/05/13 22:42	460-00-4	D3
Toluene-d8 (S)	99	%	80-120	200		09/05/13 22:42	2037-26-5	
1,2-Dichloroethane-d4 (S)	104	%	80-120	200		09/05/13 22:42	17060-07-0	
Preservation pH	**6.0**		1.0	200		09/05/13 22:42		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	**711**	mg/L	5.0	1		09/05/13 07:27		
1664 SGT-HEM, TPH	Analytical Method: EPA 1664A							
Total Petroleum Hydrocarbons	**11.6**	mg/L	5.0	1		09/09/13 13:18		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Sample: 316-059 **Lab ID: 60152236001** Collected: 08/31/13 16:10 Received: 09/02/13 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	**11500**	mg/L	5.0	1		09/06/13 14:54		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	**5.7**	Std. Units	0.10	1		09/03/13 14:45		H6
5210B BOD, 5 day	Analytical Method: SM 5210B		Preparation Method: SM 5210B					
BOD, 5 day	**32500**	mg/L	2.0	1	09/02/13 14:23	09/07/13 11:08		
350.1 Ammonia	Analytical Method: EPA 350.1							
Nitrogen, Ammonia	**738**	mg/L	20.0	200		09/06/13 09:59	7664-41-7	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	**63700**	mg/L	10000	1000		09/05/13 14:18		

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ANALYTICAL RESULTS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Sample: TRIP BLANK **Lab ID: 60152236002** Collected: 08/31/13 16:10 Received: 09/02/13 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		09/05/13 17:43	71-43-2	
Bromodichloromethane	ND	ug/L	1.0	1		09/05/13 17:43	75-27-4	
Bromoform	ND	ug/L	1.0	1		09/05/13 17:43	75-25-2	
Bromomethane	ND	ug/L	5.0	1		09/05/13 17:43	74-83-9	
Carbon tetrachloride	ND	ug/L	1.0	1		09/05/13 17:43	56-23-5	
Chloroethane	ND	ug/L	1.0	1		09/05/13 17:43	75-00-3	
Chloroform	**2.1**	ug/L	1.0	1		09/05/13 17:43	67-66-3	B
1,4-Dichlorobenzene	ND	ug/L	1.0	1		09/05/13 17:43	106-46-7	
1,2-Dichloroethane	ND	ug/L	1.0	1		09/05/13 17:43	107-06-2	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		09/05/13 17:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		09/05/13 17:43	156-60-5	
Ethylbenzene	ND	ug/L	1.0	1		09/05/13 17:43	100-41-4	
Methylene chloride	ND	ug/L	1.0	1		09/05/13 17:43	75-09-2	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		09/05/13 17:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	1		09/05/13 17:43	127-18-4	
Toluene	ND	ug/L	1.0	1		09/05/13 17:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		09/05/13 17:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		09/05/13 17:43	79-00-5	
Trichloroethene	ND	ug/L	1.0	1		09/05/13 17:43	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		09/05/13 17:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		09/05/13 17:43	1330-20-7	
Surrogates								
4-Bromofluorobenzene (S)	98	%	80-120	1		09/05/13 17:43	460-00-4	
Toluene-d8 (S)	102	%	80-120	1		09/05/13 17:43	2037-26-5	
1,2-Dichloroethane-d4 (S)	97	%	80-120	1		09/05/13 17:43	17060-07-0	
Preservation pH	**6.0**		1.0	1		09/05/13 17:43		

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: MERP/7664
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury
Associated Lab Samples: 60152236001

METHOD BLANK: 1247196 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	09/05/13 12:34	

LABORATORY CONTROL SAMPLE: 1247197

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	5	4.6	93	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247205 1247206

Parameter	Units	60152102001 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	2.0	2.3	36	42	70-130	14	20	M1

MATRIX SPIKE SAMPLE: 1247207

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1.1	5	9.9	177	70-130	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: MERP/7672
QC Batch Method: EPA 245.1
Analysis Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 60152236001

METHOD BLANK: 1248210 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/06/13 08:48	

LABORATORY CONTROL SAMPLE: 1248211

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: 1248212 1248213

Parameter	Units	60152326001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	3.0	4.6	61	91	70-130	39	20	M1,R1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: MPRP/24109
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Total
Associated Lab Samples: 60152236001

METHOD BLANK: 1247468 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	75.0	09/05/13 12:19	
Antimony	ug/L	ND	10.0	09/05/13 12:19	
Arsenic	ug/L	ND	10.0	09/05/13 12:19	
Beryllium	ug/L	ND	1.0	09/05/13 12:19	
Cadmium	ug/L	ND	5.0	09/05/13 12:19	
Chromium	ug/L	ND	5.0	09/05/13 12:19	
Cobalt	ug/L	ND	5.0	09/05/13 12:19	
Copper	ug/L	ND	10.0	09/05/13 12:19	
Iron	ug/L	1370	50.0	09/05/13 12:19	
Lead	ug/L	ND	5.0	09/05/13 12:19	
Nickel	ug/L	ND	5.0	09/05/13 12:19	
Selenium	ug/L	ND	15.0	09/05/13 12:19	
Silver	ug/L	ND	7.0	09/05/13 12:19	
Thallium	ug/L	ND	20.0	09/05/13 12:19	
Zinc	ug/L	ND	50.0	09/05/13 12:19	

LABORATORY CONTROL SAMPLE: 1247469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	10000	10300	103	85-115	
Antimony	ug/L	1000	989	99	85-115	
Arsenic	ug/L	1000	971	97	85-115	
Beryllium	ug/L	1000	1020	102	85-115	
Cadmium	ug/L	1000	982	98	85-115	
Chromium	ug/L	1000	1020	102	85-115	
Cobalt	ug/L	1000	1010	101	85-115	
Copper	ug/L	1000	983	98	85-115	
Iron	ug/L	10000	10800	108	85-115	
Lead	ug/L	1000	1020	102	85-115	
Nickel	ug/L	1000	1020	102	85-115	
Selenium	ug/L	1000	972	97	85-115	
Silver	ug/L	500	495	99	85-115	
Thallium	ug/L	1000	1030	103	85-115	
Zinc	ug/L	1000	1020	102	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum	ug/L	9140	10000	10000	22400	22000	132	128	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247470 1247471

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony	ug/L	54.3	1000	1000	785	785	73	73	70-130	0	7	
Arsenic	ug/L	729	1000	1000	1840	1840	111	111	70-130	0	10	
Beryllium	ug/L	ND	1000	1000	919	910	92	91	70-130	1	7	
Cadmium	ug/L	17.2	1000	1000	1080	1070	106	106	70-130	1	10	
Chromium	ug/L	274	1000	1000	1200	1210	93	93	70-130	0	10	
Cobalt	ug/L	59.3	1000	1000	948	941	89	88	70-130	1	6	
Copper	ug/L	24.4	1000	1000	1020	1020	100	99	70-130	0	11	
Iron	ug/L	868000	10000	10000	860000	860000	-84	-80	70-130	0	10	M1
Lead	ug/L	217	1000	1000	1030	1030	82	81	70-130	0	10	
Nickel	ug/L	143	1000	1000	1030	1030	89	88	70-130	1	10	
Selenium	ug/L	ND	1000	1000	997	1000	100	100	70-130	0	10	
Silver	ug/L	ND	500	500	30.1	31.1	5	6	70-130	3	10	M1
Thallium	ug/L	ND	1000	1000	809	792	81	79	70-130	2	6	
Zinc	ug/L	13700	1000	1000	14400	14600	77	97	70-130	1	11	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: MPRP/24108
QC Batch Method: EPA 200.7
Analysis Method: EPA 200.7
Analysis Description: 200.7 Metals, Dissolved
Associated Lab Samples: 60152236001

METHOD BLANK: 1247462 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	ug/L	ND	75.0	09/05/13 15:39	
Antimony, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Arsenic, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Beryllium, Dissolved	ug/L	ND	1.0	09/05/13 15:39	
Cadmium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Chromium, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Cobalt, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Copper, Dissolved	ug/L	ND	10.0	09/05/13 15:39	
Iron, Dissolved	ug/L	ND	50.0	09/05/13 15:39	
Lead, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Nickel, Dissolved	ug/L	ND	5.0	09/05/13 15:39	
Selenium, Dissolved	ug/L	ND	15.0	09/05/13 15:39	
Silver, Dissolved	ug/L	ND	7.0	09/05/13 15:39	
Thallium, Dissolved	ug/L	ND	20.0	09/05/13 15:39	
Zinc, Dissolved	ug/L	ND	50.0	09/05/13 15:39	

LABORATORY CONTROL SAMPLE: 1247463

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	ug/L	10000	10100	101	85-115	
Antimony, Dissolved	ug/L	1000	980	98	85-115	
Arsenic, Dissolved	ug/L	1000	961	96	85-115	
Beryllium, Dissolved	ug/L	1000	1020	102	85-115	
Cadmium, Dissolved	ug/L	1000	971	97	85-115	
Chromium, Dissolved	ug/L	1000	984	98	85-115	
Cobalt, Dissolved	ug/L	1000	990	99	85-115	
Copper, Dissolved	ug/L	1000	950	95	85-115	
Iron, Dissolved	ug/L	10000	9690	97	85-115	
Lead, Dissolved	ug/L	1000	990	99	85-115	
Nickel, Dissolved	ug/L	1000	1020	102	85-115	
Selenium, Dissolved	ug/L	1000	983	98	85-115	
Silver, Dissolved	ug/L	500	476	95	85-115	
Thallium, Dissolved	ug/L	1000	1010	101	85-115	
Zinc, Dissolved	ug/L	1000	1010	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 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	2750	20000	20000	13100	12800	52	50	70-130	2	8	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1247464 1247465

Parameter	Units	60152102001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	ug/L	41.8	2000	2000	976	997	47	48	70-130	2	7	M1
Arsenic, Dissolved	ug/L	594	2000	2000	1740	1700	57	55	70-130	2	10	M1
Beryllium, Dissolved	ug/L	ND	2000	2000	906	892	45	45	70-130	1	7	M1
Cadmium, Dissolved	ug/L	ND	2000	2000	1090	1080	54	53	70-130	2	10	M1
Chromium, Dissolved	ug/L	216	2000	2000	1150	1130	47	46	70-130	2	10	M1
Cobalt, Dissolved	ug/L	42.6	2000	2000	952	939	45	45	70-130	1	6	M1
Copper, Dissolved	ug/L	ND	2000	2000	1010	1000	50	50	70-130	1	11	M1
Iron, Dissolved	ug/L	418000	20000	20000	434000	409000	81	-43	70-130	6	10	M1
Lead, Dissolved	ug/L	78.3	2000	2000	914	899	42	41	70-130	2	10	M1
Nickel, Dissolved	ug/L	123	2000	2000	1040	1020	46	45	70-130	2	10	M1
Selenium, Dissolved	ug/L	ND	2000	2000	1110	1110	56	55	70-130	0	10	M1
Silver, Dissolved	ug/L	ND	1000	1000	34.1	90.3	3	9	70-130	90	10	M1,R1
Thallium, Dissolved	ug/L	ND	2000	2000	836	807	42	40	70-130	4	6	M1
Zinc, Dissolved	ug/L	11300	2000	2000	12400	11700	55	20	70-130	6	11	M1

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: MSV/56059
QC Batch Method: EPA 624 Low
Analysis Method: EPA 624 Low
Analysis Description: 624 MSV
Associated Lab Samples: 60152236001, 60152236002

METHOD BLANK: 1247912
Matrix: Water
Associated Lab Samples: 60152236001, 60152236002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,2-Dichloroethane	ug/L	ND	1.0	09/05/13 15:55	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/05/13 15:55	
Benzene	ug/L	ND	1.0	09/05/13 15:55	
Bromodichloromethane	ug/L	ND	1.0	09/05/13 15:55	
Bromoform	ug/L	ND	1.0	09/05/13 15:55	
Bromomethane	ug/L	ND	5.0	09/05/13 15:55	
Carbon tetrachloride	ug/L	ND	1.0	09/05/13 15:55	
Chloroethane	ug/L	ND	1.0	09/05/13 15:55	
Chloroform	ug/L	2.0	1.0	09/05/13 15:55	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Ethylbenzene	ug/L	ND	1.0	09/05/13 15:55	
Methylene chloride	ug/L	ND	1.0	09/05/13 15:55	
Tetrachloroethene	ug/L	ND	1.0	09/05/13 15:55	
Toluene	ug/L	ND	1.0	09/05/13 15:55	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Trichloroethene	ug/L	ND	1.0	09/05/13 15:55	
Vinyl chloride	ug/L	ND	1.0	09/05/13 15:55	
Xylene (Total)	ug/L	ND	3.0	09/05/13 15:55	
1,2-Dichloroethane-d4 (S)	%	98	80-120	09/05/13 15:55	
4-Bromofluorobenzene (S)	%	100	80-120	09/05/13 15:55	
Toluene-d8 (S)	%	99	80-120	09/05/13 15:55	

LABORATORY CONTROL SAMPLE: 1247913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	20.5	102	71-139	
1,1,2,2-Tetrachloroethane	ug/L	20	22.5	113	59-138	
1,1,2-Trichloroethane	ug/L	20	22.9	114	69-127	
1,2-Dichloroethane	ug/L	20	21.9	110	71-129	
1,4-Dichlorobenzene	ug/L	20	21.6	108	68-124	
Benzene	ug/L	20	20.7	103	73-129	
Bromodichloromethane	ug/L	20	22.0	110	63-129	
Bromoform	ug/L	20	22.6	113	52-123	
Bromomethane	ug/L	20	20.6	103	10-160	
Carbon tetrachloride	ug/L	20	20.5	102	70-140	
Chloroethane	ug/L	20	17.6	88	42-160	
Chloroform	ug/L	20	21.6	108	60-120	
cis-1,2-Dichloroethene	ug/L	20	21.0	105	70-125	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

LABORATORY CONTROL SAMPLE: 1247913

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	22.3	111	66-133	
Methylene chloride	ug/L	20	18.5	93	56-135	
Tetrachloroethene	ug/L	20	21.6	108	64-143	
Toluene	ug/L	20	21.1	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	21.4	107	67-149	
Trichloroethene	ug/L	20	22.0	110	71-130	
Vinyl chloride	ug/L	20	20.1	101	41-160	
Xylene (Total)	ug/L	60	65.7	110	67-130	
1,2-Dichloroethane-d4 (S)	%			105	80-120	
4-Bromofluorobenzene (S)	%			101	80-120	
Toluene-d8 (S)	%			100	80-120	

MATRIX SPIKE SAMPLE: 1247914

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	4000	3870	97	52-160	
1,1,2,2-Tetrachloroethane	ug/L	ND	4000	4030	101	46-157	
1,1,2-Trichloroethane	ug/L	ND	4000	3830	96	52-150	
1,2-Dichloroethane	ug/L	ND	4000	3930	98	49-155	
1,4-Dichlorobenzene	ug/L	ND	4000	3650	91	18-147	
Benzene	ug/L	ND	4000	3850	96	37-151	
Bromodichloromethane	ug/L	ND	4000	3940	98	35-155	
Bromoform	ug/L	ND	4000	3750	94	45-133	
Bromomethane	ug/L	ND	4000	3100	77	10-160	
Carbon tetrachloride	ug/L	ND	4000	3980	100	70-140	
Chloroethane	ug/L	ND	4000	3420	85	14-160	
Chloroform	ug/L	273	4000	4080	89	51-138	
cis-1,2-Dichloroethene	ug/L	ND	4000	3850	96	19-160	
Ethylbenzene	ug/L	ND	4000	3920	98	37-154	
Methylene chloride	ug/L	ND	4000	3550	88	15-156	
Tetrachloroethene	ug/L	ND	4000	3920	98	64-148	
Toluene	ug/L	ND	4000	3790	95	47-150	
trans-1,2-Dichloroethene	ug/L	ND	4000	3950	99	54-156	
Trichloroethene	ug/L	ND	4000	3850	96	71-157	
Vinyl chloride	ug/L	ND	4000	3940	98	10-160	
Xylene (Total)	ug/L	ND	12000	11600	97	12-153	
1,2-Dichloroethane-d4 (S)	%				103	80-120	
4-Bromofluorobenzene (S)	%				99	80-120	
Toluene-d8 (S)	%				99	80-120	
Preservation pH		6.0		6.0			

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: OEXT/40248 Analysis Method: EPA 625
QC Batch Method: EPA 625 Analysis Description: 625 MSS
Associated Lab Samples: 60152236001

METHOD BLANK: 1247598 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Trichlorophenol	ug/L	ND	5.0	09/09/13 20:31	
4,6-Dinitro-2-methylphenol	ug/L	ND	25.0	09/09/13 20:31	
Hexachloro-1,3-butadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachlorocyclopentadiene	ug/L	ND	5.0	09/09/13 20:31	
Hexachloroethane	ug/L	ND	5.0	09/09/13 20:31	
Naphthalene	ug/L	ND	5.0	09/09/13 20:31	
Nitrobenzene	ug/L	ND	5.0	09/09/13 20:31	
Pentachlorophenol	ug/L	ND	5.0	09/09/13 20:31	
Phenol	ug/L	ND	5.0	09/09/13 20:31	
2,4,6-Tribromophenol (S)	%	85	39-119	09/09/13 20:31	
2-Fluorobiphenyl (S)	%	90	36-120	09/09/13 20:31	
2-Fluorophenol (S)	%	42	18-120	09/09/13 20:31	
Nitrobenzene-d5 (S)	%	79	32-120	09/09/13 20:31	
Phenol-d6 (S)	%	27	12-120	09/09/13 20:31	
Terphenyl-d14 (S)	%	103	44-120	09/09/13 20:31	

LABORATORY CONTROL SAMPLE: 1247599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	50	41.2	82	44-120	
2,4,6-Trichlorophenol	ug/L	50	43.9	88	48-120	
4,6-Dinitro-2-methylphenol	ug/L	50	39.5	79	31-147	
Hexachloro-1,3-butadiene	ug/L	50	40.5	81	41-116	
Hexachlorocyclopentadiene	ug/L	100	74.2	74	31-120	
Hexachloroethane	ug/L	50	38.3	77	40-113	
Naphthalene	ug/L	50	41.5	83	48-120	
Nitrobenzene	ug/L	50	42.4	85	47-120	
Pentachlorophenol	ug/L	50	48.0	96	43-127	
Phenol	ug/L	50	12.9	26	15-112	
2,4,6-Tribromophenol (S)	%			99	39-119	
2-Fluorobiphenyl (S)	%			88	36-120	
2-Fluorophenol (S)	%			40	18-120	
Nitrobenzene-d5 (S)	%			79	32-120	M4
Phenol-d6 (S)	%			25	12-120	
Terphenyl-d14 (S)	%			92	44-120	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WET/43223 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 60152236001

METHOD BLANK: 1247394 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	09/05/13 07:22	

LABORATORY CONTROL SAMPLE: 1247395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	40	36.1	90	78-114	

MATRIX SPIKE SAMPLE: 1247398

Parameter	Units	60152198001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	691	41.7	694	8	78-114	M1

SAMPLE DUPLICATE: 1247399

Parameter	Units	60152236001 Result	Dup Result	RPD	Max RPD	Qualifiers
Oil and Grease	mg/L	711	739	4	18	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WET/43296 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 SGT-HEM, TPH
Associated Lab Samples: 60152236001

METHOD BLANK: 1250005 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Petroleum Hydrocarbons	mg/L	ND	5.0	09/09/13 13:17	

LABORATORY CONTROL SAMPLE: 1250006

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	20	20.8	104	64-132	

MATRIX SPIKE SAMPLE: 1250012

Parameter	Units	60152198001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Total Petroleum Hydrocarbons	mg/L	12.6	20.8	26.4	66	64-132	

SAMPLE DUPLICATE: 1250013

Parameter	Units	60152236001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	11.6	11.1	4	34	

SAMPLE DUPLICATE: 1250110

Parameter	Units	60152237001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Petroleum Hydrocarbons	mg/L	21.4	22.0	3	34	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WET/43266
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 60152236001

METHOD BLANK: 1249025
Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	5.0	09/06/13 14:54	

SAMPLE DUPLICATE: 1249026

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
Total Suspended Solids	mg/L	5680	5460	4	25	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WET/43203
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 60152236001

SAMPLE DUPLICATE: 1246731

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.7	5.8	1	5	H6

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WET/43183
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 60152236001

METHOD BLANK: 1246390 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	09/07/13 11:04	

LABORATORY CONTROL SAMPLE: 1246391

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	172	87	85-115	

SAMPLE DUPLICATE: 1246392

Parameter	Units	60152236001 Result	Dup Result	RPD	Max RPD	Qualifiers
BOD, 5 day	mg/L	32500	30700	6	17	

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QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WETA/26091 Analysis Method: EPA 350.1
QC Batch Method: EPA 350.1 Analysis Description: 350.1 Ammonia
Associated Lab Samples: 60152236001

METHOD BLANK: 1247680 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Ammonia	mg/L	ND	0.10	09/06/13 09:52	

LABORATORY CONTROL SAMPLE: 1247681

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	2	2.1	107	90-110	

MATRIX SPIKE SAMPLE: 1247683

Parameter	Units	60152283001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Ammonia	mg/L	706	400	1070	91	90-110	

SAMPLE DUPLICATE: 1247682

Parameter	Units	60152198001 Result	Dup Result	RPD	Max RPD	Qualifiers
Nitrogen, Ammonia	mg/L	695	687	1	18	

REPORT OF LABORATORY ANALYSIS

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

QUALITY CONTROL DATA

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

QC Batch: WETA/26075 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 60152236001

METHOD BLANK: 1247049 Matrix: Water
Associated Lab Samples: 60152236001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	10.0	09/05/13 14:12	

LABORATORY CONTROL SAMPLE: 1247050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	50	49.7	99	90-110	

MATRIX SPIKE SAMPLE: 1247051

Parameter	Units	60151872001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	65700	50000	100000	69	90-110	M1

SAMPLE DUPLICATE: 1247053

Parameter	Units	60152283001 Result	Dup Result	RPD	Max RPD	Qualifiers
Chemical Oxygen Demand	mg/L	54200	53000	2	25	

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QUALIFIERS

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

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

B	Analyte was detected in the associated method blank.
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.
M4	A matrix spike/matrix spike duplicate was not performed for this batch due to sample dilution.
R1	RPD value was outside control limits.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: BRIDGETON LF 316-059
Pace Project No.: 60152236

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
60152236001	**316-059**	EPA 200.7	MPRP/24109	EPA 200.7	ICP/18843
60152236001	**316-059**	EPA 200.7	MPRP/24108	EPA 200.7	ICP/18842
60152236001	**316-059**	EPA 245.1	MERP/7664	EPA 245.1	MERC/7622
60152236001	**316-059**	EPA 245.1	MERP/7672	EPA 245.1	MERC/7628
60152236001	**316-059**	EPA 625	OEXT/40248	EPA 625	MSSV/12755
60152236001	**316-059**	EPA 624 Low	MSV/56059		
60152236002	**TRIP BLANK**	EPA 624 Low	MSV/56059		
60152236001	**316-059**	EPA 1664A	WET/43223		
60152236001	**316-059**	EPA 1664A	WET/43296		
60152236001	**316-059**	SM 2540D	WET/43266		
60152236001	**316-059**	SM 4500-H+B	WET/43203		
60152236001	**316-059**	SM 5210B	WET/43183	SM 5210B	WET/43278
60152236001	**316-059**	EPA 350.1	WETA/26091		
60152236001	**316-059**	EPA 410.4	WETA/26075		

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Pace Analytical
www.pacelabs.com

Sample Condition Upon Receipt

WO#: 60152236

60152236

Client Name: Barr

Optional
Proj Due Date:
Proj Name:

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

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

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

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

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

Cooler Temperature: 1.9

Temperature should be above freezing to 6°C

Date and initials of person examining contents: Bm 9/2/13

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. Bar pH
Rush Turn Around Time requested:	☐Yes ☑No ☐N/A	7.
Sufficient volume:	☑Yes ☐No ☐N/A	8.
Correct containers used:	☑Yes ☐No ☐N/A	
Pace containers used:	☑Yes ☐No ☐N/A	9.
Containers intact:	☑Yes ☐No ☐N/A	10.
Unpreserved 5035A soils frozen w/in 48hrs?	☐Yes ☐No ☑N/A	11.
Filtered volume received for dissolved tests?	☐Yes ☑No ☐N/A	12.
Sample labels match COC:	☑Yes ☐No ☐N/A	
Includes date/time/ID/analyses Matrix: WT		13.
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	H_2SO_4 & HNO3 volume pH ~6.0; added 2mL H_2SO_4 & 2.5ml HNO3. Final pH ~3.0 & ~4.0, respectively
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: BM Lot # of added preservative: 12510 / 12518
Trip Blank present:	☑Yes ☐No ☐N/A	
Pace Trip Blank lot # (if purchased): covered		15.
Headspace in VOA vials (>6mm):	☑Yes ☐No ☐N/A	16. 5 of 5 sample vials have HS. — Apply FOOTNOTE BASED ON HISTORICAL
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: 9/3/13

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

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

Regulatory Agency
State / Location
Missouri

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	COD EPA 410	pH SM 4500H+B	LF DIS. METALS 200.7/245	TOTAL METALS 200.7/245	AMMONIA EPA 350	O/G EPA 1664	625 SVOCs	VOCs EPA 624	TSS SM2540D	TPH/HEM-SGT 1664			Residual Chlorine (Y/N)	Requested Analysis Filtered (Y/N)
1	316-059	OT	G	8/31/13	1010				13	9	1	1	2					X	X	X	X	X	X	X	X	X				METALS LIST total & LF Dis: M
2	TRIP BLANK								2	2																X		2(DCA-)			Al,Sb,As,Be,Cd,Cr, UO2
3																															Co,Cu,Fe,Pb,Ni,Se,Ag,Tl,Zn
4																															and Mercury
5																															
6																															
7																															
8																															
9																															
10																															
11																															
12																															

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

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	John Powell	9/2/13	840	Hunter KS	9/2/13	840				
SITE ADDRESS: BRIDGETON LF	Hunter KS	9/2/13	840	Bill Stone 9/2	9-2-13	8:40				
13570 ST. CHARLES ROCK RD				PASI	9/2/13	1300	1.9	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE			TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
PRINT Name of SAMPLER:	John Powell					
SIGNATURE of SAMPLER:		DATE Signed: 08-31-13				

Pace Analytical

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page : 1 Of 1

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: BARR ENGINEERING	Report To: ED GALBRAITH/BARR	Attention: TABITHA PROVINCE
Address:	Copy To: SCOTT FEDAK/FEEZOR	Company Name: REPUBLIC SERVICES
	DANA BAKER/MARGARET TREANOR -BARR	Address: BRIDGETON, MO 63044
Email To:	Purchase Order No.: PO 3727110	Pace Quote Reference: 130426_7588
Phone: (816) 285-8410 Fax	Client Project ID: BRIDGETON LF	Pace Project Manager: Brown, Angie
Requested Due Date/TAT: 10 Day (Default)	Container Order Number:	Pace Profile #: 6787 LINE 5

Regulatory Agency

State / Location: Missouri

Requested Analysis Filtered (Y/N)

ITEM#	SAMPLE ID (One Character per box. (A-Z, 0-9 / , -) Sample Ids must be unique)	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED START DATE	COLLECTED START TIME	COLLECTED END DATE	COLLECTED END TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H2SO4	HNO3	HCl	NaOH	Na2S2O3	Methanol	Other	Analyses Test Y/N	BOD SM 5210B	Residual Chlorine (Y/N)	
1	316-059	OT	G	8/31/13	14:10				1	1									X		
2																					
3																					
4																					
5																					
6																					
7																					
8																					
9																					
10																					
11																					
12																					

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

Residual Chlorine (Y/N): 60157236

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
SITE CONTACT: BILL ABERNATHY 314-502-1299	John Powell	9/1/13	840	Hunter Fs	9/1/13	840				
SITE ADDRESS: BRIDGETON LF	Hunter Fs	9/1/13	840	Bill Stone 412	9-2-13	8:40				
13570 ST. CHARLES ROCK RD				PAS1	9/2/13	1300	1.9	Y	Y	Y
BRIDGETON MO 63044										

SAMPLER NAME AND SIGNATURE				
PRINT Name of SAMPLER: John Powell				
SIGNATURE of SAMPLER:	DATE Signed: 8-31-13	TEMP in C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)