BRACEWELL
&GIULIANI

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Washington, DC
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Seattle
Dubai
London

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Bracewell & Giuliani LLP
2000 K Street NW
Suite 500
Washington, DC
20006-1872

May 25, 2011

By FedEx

Jacqueline Morrison
Land and Chemicals Division (3LC00)
U.S. Environmental Protection Agency Region III
1650 Arch Street
Philadelphia, Pennsylvania 19103

Re: **Request for Information on Marcellus Shale Flowback Water**

Dear Ms. Morrison:

Enclosed please find Cabot Oil & Gas Corporation's response to United States Environmental Protection Agency Region III's Request for Information dated May 12, 2011, COG-EPA000001 to COG-EPA000211. Please do not hesitate to contact the undersigned with any questions regarding this matter.

Very truly yours,

Bracewell & Giuliani LLP

Jason B. Hutt

Enclosure

cc: Kevin Cunningham, General Counsel
Cabot Oil & Gas Corporation

CABOT OIL AND GAS CORPORATION
Response to USEPA Region III May 12, 2011 RFI on Marcellus Shale Flowback Water
May 25, 2011

Cabot Oil & Gas Corporation ("Cabot" or the "Company") received U.S. Environmental Protection Agency Region III's ("EPA Region III") *Request for Information on Marcellus Shale Flowback Water* ("RFI") on May 12, 2011. Cabot has had less than ten business days to analyze the request, which is confusing and contradictory in places, and to collect, review and process potentially responsive information. Cabot has made a good faith effort to compile and produce responsive information through the date of the RFI, but reserves the right to supplement its response consistent with the terms of the RFI to the extent that additional information becomes available or EPA Region III clarifies the scope of the RFI.

Cabot is providing the enclosed information on a voluntary basis to assist EPA Region III in understanding the important role that recycling and reuse of flowback water plays in the Company's Marcellus Shale extraction practices. In providing this information, Cabot does not waive any objections as to the scope of EPA Region III's information request authority under the statutes cited in the RFI. Among other things, Cabot does not agree that EPA Region III has the authority to require the Company to submit quarterly reports on waste disposal and recycling practices under any of the statutes cited in the RFI, or to submit information regarding all discharges or releases of any substance or waste without regard to the quantity or identity of such substances or wastes. To the extent these or similar objections are made by other companies responding to the RFI, Cabot incorporates and adopts those objections into this response by reference as if fully stated herein.

While reserving any and all legal rights associated with these objections, Cabot responds to the RFI as follows:

Question 1. Provide a list identifying each state permitted Well that you own or operate in EPA Region III and include the latitude and longitude for each Well and identify whether each Well is actively being drilled, is completed, or is producing natural gas.

Enclosed please find tables, COG-EPA000008 to COG-EPA000021, identifying each of Cabot's state-permitted Marcellus shale gas wells in EPA Region III, including the latitude and longitude for each well and identifying whether each well is actively being drilled, is completed, or is producing natural gas. These tables do not include Marcellus shale gas wells in which Cabot holds less than a majority interest and does not operate, Marcellus shale gas wells that have been permitted by the state but not drilled, or that have been plugged and/or abandoned pursuant to applicable state oil and gas regulations.

Question 2. Provide all Pennsylvania "26R" forms completed and submitted to the Commonwealth of Pennsylvania for all Gas Extraction Wastewaters associated with your Wells for the calendar year 2010, including complete Chemical Analysis Attachments associated with each.

Enclosed please find Cabot's Pennsylvania "26R" forms associated with Gas Extraction Wastewater from Cabot's Marcellus shale gas wells, COG-EPA000022 to COG-EPA000189, completed and submitted to the Commonwealth of Pennsylvania for the calendar year 2010, including the attachments thereto.

CABOT OIL AND GAS CORPORATION
Response to USEPA Region III May 12, 2011 RFI on Marcellus Shale Flowback Water
May 25, 2011

Question 3. For the period of April 19, 2011 to present, identify your Gas Extraction Wastewater management activities, including disposal, reuse, treatment, recycling, and reclamation for your Wells. In doing so, provide the following:

a. For each Well, the actual or estimated amount of Gas Extraction Wastewater generated;

Cabot did not generate any Gas Extraction Wastewater from Marcellus shale gas wells during drilling operations during the relevant time period; Cabot uses a closed-loop system that reuses drilling mud at successive drill sites. For Pennsylvania, enclosed please find a table, COG-EPA000190 to COG-EPA000194, providing estimated amounts of Gas Extraction Wastewater generated from completing and producing Marcellus shale gas wells during the relevant time period. For West Virginia, Cabot did not drill or complete any Marcellus shale gas Wells during the relevant time period, and Cabot does not have information responsive to this request for producing Marcellus shale gas wells during the relevant time period. For Virginia and Maryland, Cabot did not drill or complete any Marcellus shale gas wells during the relevant time period, nor does it own or operate any Marcellus shale gas wells in these states.

b. For each facility that has received your Gas Extraction Wastewater, including but not limited to, underground injection wells, wastewater treatment plants, and recycling facilities, provide the name and address for each such facility, the name and address of any entity that transported your Gas Extraction Wastewater to each facility, and the volume (in gallons) of such Gas Extraction Wastewater sent to each such facility;

<u>West Virginia:</u>

Below is the volumetric data for Cabot's Gas Extraction Wastewater from its Marcellus shale gas wells in West Virginia during the relevant time period:

UIC Wells:

1. [redacted] Land #36 – Disposal Well
   UIC Permit # UIC2D0470062
   Location: On the waters of Tug Fork in Adkins district of McDowell County
   The approximate Longitude is 37.2.10
   The approximate Latitude is -81.35.03
   Volume sent to facility during the relevant time period - -0- gallons

2. Cabot #100 – Disposal Well
   UIC Permit # UIC2D0791452
   Location: 1 mile from the town of Bancroft Rt. 62 on Guano Creek Rd (dirt)
   Amherst/Plymouth Wildlife Management Area
   GPS: 38.529N -81.838W
   Volume sent to facility during the relevant time period - 9,366 gallons

3. [redacted]#2 – Disposal Well
   UIC Permit # - UIC2D0151017
   Location: 13617 Clay Highway
   Lizemores, WV 25125
   Volume sent to facility during the relevant time period - 3,780 gallons

Transportation:

Cabot transported all Gas Extraction Wastewater from its Marcellus shale gas wells during the relevant time period.

Pennsylvania:

For Pennsylvania, Cabot does not possess or control all of the records necessary to respond to request to RFI No. 3.b. To facilitate EPA Region III's investigation, the Company requested that its vendors provide the volumetric data listed below regarding its Gas Extraction Wastewater from Cabot's Marcellus shale gas wells. Although Cabot has made a good faith effort to confirm the accuracy of the volumetric data below, Cabot does not assume responsibility for its accuracy or completeness:

POTW / Disposal Facilities:

1. Sunbury Generation, LP
   P. O. Box 517
   Shamokin Dam, PA 17876
   Volume sent to facility during the relevant time period - 20,000 gallons

2. Johnstown Regional Sewage POTW
   241 Asphalt Road
   Johnstown, PA 15906
   Volume sent to facility during the relevant time period - 5,000 gallons

Recycling Facilities:

1. Comtech Industries, Inc.- Corporate
   2155 Park Avenue, Suite 100
   Washington, PA 15301

2. Comtech Industries, Inc. - Mobile Treatment Facility Carlson Well Pad (last shipment 4/27/11)
   1055 SR 3006
   Springville, PA 18844

3. Comtech Industries, Inc.- Mobile Treatment Facility Hibbard 2H/4H Well Pad/Tank Farm (first shipment 5/7/11)

7105 SR29
Springville, PA 18844

Volume sent to Comtech Industries, Inc.'s mobile treatment facilities during the relevant time period - 2,584,982 gallons

Transportation:

1. Somerset Regional Water Resources
   207 SR 29N
   Tunkhannock, PA 18657

2. GasSearch Drilling Services – Corporate Office
   466 Airport Industrial Park Road
   Parkersburg, WV 26104

3. GasSearch Drilling Services – Local Office
   1575 SR 29
   Montrose, PA 18801

c. The total volume (in gallons) of Gas Extraction Wastewater that you treated and recycled or caused to be treated or recycled for all your Well sites;

Cabot did not have any Gas Extraction Wastewater from Marcellus shale gas wells to recycle in West Virginia during the relevant time period. A third-party vendor, Comtech Industries, Inc. ("Comtech"), recycled approximately 2,003,446 gallons of Gas Extraction Wastewater from Marcellus shale gas wells during the relevant time period. Although Cabot has made a good faith effort to confirm the accuracy of the volumetric data, Cabot does not assume responsibility for its accuracy or completeness.

Please note the difference in volumes sent to Comtech (listed in the response to RFI No. 3.b) and the volumes recycled by Comtech during the relevant time period. This difference reflects the lag between the delivery of Gas Extraction Wastewater and its recycling by Comtech.

d. A description of the method or methods by which you or any third party recyclers recycled such Gas Extraction Wastewater; and

Enclosed please find diagrams, COG-EPA000195 to COG-EPA000196, demonstrating the system layout and process flow for the recycling method utilized by Cabot's vendor. These diagrams were provided by the vendor to reflect the process that the vendor uses for Cabot and Cabot does not assume responsibility for the accuracy or completeness of these records.

///

e. All modified disposal plans that you submitted after April 19, 2011 to the Commonwealth pursuant to the Pennsylvania Code Title 52 Section 78.55.

Cabot did not submit a modified disposal plan to the Commonwealth accounting for any change in the practices identified in the plan during the relevant time period; Cabot's current operations within Pennsylvania are in accordance with the disposal plan on file with the Commonwealth dated February 2011. Enclosed please find a copy of the disposal plan, COG-EPA000197 to COG-EPA000209.

f. Describe your use of pits, lagoons, impoundments or other land-based units for the storage or disposal of such Gas Extraction Wastewater associated with your gas extraction activities.

During the relevant time period, Cabot did not use pits, lagoons, impoundments or other land-based units for the storage or disposal of Gas Extraction Wastewater from Marcellus shale gas wells within EPA Region III. During the relevant time period, Cabot used a portable steel tank system to manage its Gas Extraction Wastewater from its Marcellus shale gas wells in EPA Region III.

g. Provide the latitude and longitude for all pits, lagoons, impoundments or other land-based units used for the storage of Gas Extraction Wastewater associated with your gas extraction activities.

Please refer to Cabot's response to RFI No. 3.f above.

Question 4. Identify your intentions for disposal, reuse, treatment, recycling, and reclamation of Gas Extraction Wastewater after May 19, 2011, including your expected methods and locations for disposal, treatment, or recycling during calendar year 2011. Provide the expected percentage of your Gas Extraction Wastewater by disposal, treatment, or recycling method.

In Pennsylvania, Cabot intends to recycle all Gas Extraction Wastewater from its Marcellus shale gas wells during the remainder of calendar year 2011 using a third-party contractor's mobile recycling equipment. In West Virginia, Cabot does not intend to drill or complete a Marcellus shale gas well during the remainder of calendar year 2011, and Cabot intends to continue injecting produced fluids from its Marcellus shale gas wells into disposal wells permitted under the Underground Injection Control program and listed in the response to RFI No. 3.b. Cabot does not intend to conduct Marcellus shale exploration or production activities elsewhere in EPA Region III during the remainder of calendar year 2011.

/ / /

/ / /

/ / /

Question 5. Submit quarterly reports to EPA on your waste disposal and recycling practices commencing on July 1, 2011 and continuing on a quarterly basis thereafter until June 30, 2012, for a total of four (4) reports. Such quarterly reports shall include the following information for the prior quarter:

Cabot wishes to register its objection to RFI No. 5 and its various subparts. RFI No. 5 appears to exceed EPA Region III's authority under the statutes cited in the RFI because it requires quarterly reporting not currently mandated by any of the statutory or regulatory authorities relied upon by EPA Region III in issuing the RFI. Nonetheless, while reserving any and all rights associated with these objections, Cabot is willing to work on a voluntary basis with EPA Region III and the other recipients of this RFI so that an orderly, consistent and transparent process for responding to RFI No. 5 is achieved; currently, no further information is required under this question until July 1, 2011.

a. For each Well, the actual or estimated volume (in gallons) of Gas Extraction Wastewater generated;

b. For each facility that has received your Gas Extraction Wastewater, including but not limited to, underground injection wells, wastewater treatment plants, and recycling facilities, provide the name and address for each such facility, the name and address of any entity that transported your Gas Extraction Wastewater to each facility, and the volume (in gallons) of Gas Extraction Wastewater sent to each such facility;

c. The total volume (in gallons) of Gas Extraction Wastewater that you or any third parties treated and recycled or caused to be treated or recycled for all your Well sites;

d. A description of the method or methods by which you or any third party recyclers recycled such Gas Extraction Wastewater; and

e. Describe your use of pits, lagoons, impoundments or other land-based units for the storage or disposal of such Gas Extraction Wastewater for your gas extraction activities.

f. Provide the latitude and longitude for all pits, lagoons, impoundments or other land-based units used for the storage of Gas Extraction Wastewater associated with your gas extraction activities.

Question 6. Identify any and all discharges or releases of any substances, wastes, and/or Gas Extraction Wastewater from facilities that contain Wells that you own or operate and all media (air, water, or land) that were affected by such discharges or releases and the estimated quantities of all substances discharged or released for the past five (5) years.

Cabot wishes to register its objection to RFI No. 6 because Cabot believes the breadth of the request—it seeks information regarding all discharges or releases of any substance or waste without regard to the quantity, identity or characterization of such substances or wastes—may exceed EPA Region III's statutory authority to request such information. While reserving any

and all rights associated with these objections, enclosed find: (i) Table 1 (COG-EPA000210) identifying, to Cabot's knowledge, unpermitted releases to land or water of hazardous substances, hazardous wastes, and/or Gas Extraction Wastewater from Cabot's Marcellus shale gas well facilities during the past five years; and (ii) Table 2 (COG-EPA000211) identifying, to Cabot's knowledge, additional spill events at Cabot's Marcellus shale gas well sites during the past five years where Cabot does not have sufficient information to confirm that a release of a hazardous substance, hazardous waste, and/or Gas Extraction Wastewater occurred from the facility. Cabot has not included in this response allegations of methane migration related to Cabot's Marcellus shale gas operations in Pennsylvania; Cabot disputes the validity of these allegations and does not believe that they are responsive to RFI No. 6.

2540-PM-BWM0347 6/2005

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 26R
CHEMICAL ANALYSIS OF RESIDUAL WASTE
ANNUAL REPORT BY THE GENERATOR

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 26R, reference the item number and identify the date prepared. The date on attached sheets needs to match the date noted below.

General Reference 287.54

Date Prepared/Revised February 28, 2011

DEP USE ONLY
Date Received & General Notes

SECTION A. CLIENT (GENERATOR OF THE WASTE) INFORMATION

Company Name Cabot Oil & Gas Corporation				
If a Subsidiary, Name of Parent Company				**EPA Generator ID#**
Company Mailing Address Line 1 Five Penn Center West		**Company Mailing Address Line 2** Suite 401		
Company Address Last Line – City Pittsburgh	**State** PA	**Zip+4** 15276-0120	**Phone** 412.249.3850	**Ext**
Company Contact Last Name Smelko	**First Name** John	**MI**	**Suffix**	
Municipality Robinson Township		**County** Allegheny		
Contact Phone 412.249.3854	**Ext**	**Contact Email Address** john.smelko@cabotog.com		

Is the waste generated at the Company Mailing Address (noted above)? ☐ Yes ☒ No

If 'No', describe location of waste generation and storage. generated at natural gas well locations in Susquehanna County, PA

Municipality	Dimock, Springville, Brooklyn, Auburn, Rush, Jessup, Bridgewater	**County**	Susquehanna	**State**	PA

SECTION B. WASTE DESCRIPTION

Residual Waste Code	Residual Waste Code Description	Amount	Unit of Measure	Time Frame
801	Drilling Fluids, Residuals - Pit Water	21,462,994	☐ cu yd ☒ gal ☐ lb ☐ ton	☐ One Time

1. GENERAL PROPERTIES

a. pH Range 8.0 to 11.0 (based on analyses or knowledge)

b. Physical State
☒ Liquid Waste (EPA Method 9095)
☐ Solid (EPA Method 9095)
☐ Gas (ambient temperature & pressure)

c. Physical Appearance **Color** Greyish to Black **Odor** Earthy smell
Number of Solid or Liquid Phases of Separation 1 phase
Describe each phase of separation. Greyish to Black Solution with Solids Suspended Throughout

2. CHEMICAL ANALYSIS ATTACHMENTS

a.	**The results of a detailed chemical characterization of the waste, as described in the instructions, is attached.**	☒ Yes	☐ No	
b.	**A detailed description of the waste sampling method is attached.**	☒ Yes	☐ No	
c.	**The quality assurance/quality control procedures employed by the laboratory(ies) is attached.**	☒ Yes	☐ No	
d.	**The results of the hazardous waste determination is attached.**	☒ Yes	☐ No	
e.	**If applicable, a detailed explanation supporting use of generator knowledge in lieu of actual chemical analysis is attached.**	☐ Yes	☐ No	☒ N/A

3. Process Description & Schematic Attachments

a.	A detailed description of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☒ Yes	☐ No
b.	A schematic of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☒ Yes	☐ No
c.	If portions of the information submitted are confidential, the substantiation for a confidentiality claim, as described in the instructions, is attached.	☐ Yes ☐ No	☒ N/A

SECTION C. MANAGEMENT OF RESIDUAL WASTE

1. Processing or Disposal Facility(ies)

The area below (a.-d.) will accommodate the identification of two facilities. Attach additional sheets if necessary.

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PA0026034

b.	Facility Name	Johnstown Regional Sewage POTW		
	Address Line 1	241 Asphalt Road		
	Address Line 1			
	Address City State ZIP	Johnstown	PA	15906
	Municipality	Johnstown	County	Cambria
c.	Facility Contact Name	Jeff Mulligan		
	Title	Chief Plant Operator		
	Phone	814.539.4877	Email Address	jeffmulligan@pennswoods.net

d. Volume of waste shipped to processing or disposal facility in the previous year.
9,058,620 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PAR900009

b.	Facility Name	PSC Environmental		
	Address Line 1	2337 North Penn Road		
	Address Line 1			
	Address City State ZIP	Hatfield	PA	19440
	Municipality	Hatfield	County	Montgomery
c.	Facility Contact Name	Mark Dublisky		
	Title			
	Phone	610.731.7200	Email Address	mdublisky@pscnow.com

d. Volume of waste shipped to processing or disposal facility in the previous year.
1,165,134 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

2. Beneficial Use

a. Has the waste been approved for beneficial use? ☐ Yes ☒ No
If "Yes", list the general permit number or approval number.

b. Volume of waste beneficially used in the previous year.
☐ cu yd ☐ gal ☐ lb ☐ ton (check one)

3. Process Description & Schematic Attachments

a. A detailed description of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached. ☐ Yes ☐ No

b. A schematic of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached. ☐ Yes ☐ No

c. If portions of the information submitted are confidential, the substantiation for a confidentiality claim, as described in the instructions, is attached. ☐ Yes ☐ No ☐ N/A

SECTION C. MANAGEMENT OF RESIDUAL WASTE

1. Processing or Disposal Facility(ies)

The area below (a.-d.) will accommodate the identification of two facilities. Attach additional sheets if necessary.

a. Solid waste permit number(s) for processing or disposal facility being utilized.
JM0070

b.	Facility Name	Lorco Petroleum Services		
	Address Line 1	450 South Front Street		
	Address Line 1			
	Address City State ZIP	Elizabeth	NJ	07202
	Municipality	Elizabeth	County	Union
c.	Facility Contact Name	E. Lumetti		
	Title			
	Phone	800.734.0910	Email Address	eblumetti@lorcopetroleum.com

d. Volume of waste shipped to processing or disposal facility in the previous year.
162,000 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PA0095273

b.	Facility Name	Pennsylvania Brine Treatment, Inc.		
	Address Line 1	296 Bells Mills Road		
	Address Line 1			
	Address City State ZIP	Josephine	PA	15750
	Municipality	Bells Mills	County	Indiana
c.	Facility Contact Name	Elton DeLong		
	Title	Operations Manager		
	Phone	724.248.1000	Email Address	sparky@pabrine.com

d. Volume of waste shipped to processing or disposal facility in the previous year.
13,860 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

2. Beneficial Use

a. Has the waste been approved for beneficial use? ☐ Yes ☐ No
If "Yes", list the general permit number or approval number.

b. Volume of waste beneficially used in the previous year.
☐ cu yd ☐ gal ☐ lb ☐ ton (check one)

3. Process Description & Schematic Attachments

a.	A detailed description of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☐ Yes	☐ No	
b.	A schematic of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☐ Yes	☐ No	
c.	If portions of the information submitted are confidential, the substantiation for a confidentiality claim, as described in the instructions, is attached.	☐ Yes	☐ No	☐ N/A

SECTION C. MANAGEMENT OF RESIDUAL WASTE

1. Processing or Disposal Facility(ies)

The area below (a.-d.) will accommodate the identification of two facilities. Attach additional sheets if necessary.

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PA0008451

b.

Facility Name	Sunbury Generation, LP		
Address Line 1	P.O. Box 517		
Address Line 1			
Address City State ZIP	Shamokin Dam	PA	17876
Municipality	Shamokin Dam Borough	County	Snyder

c.

Facility Contact Name	Norm Zellers		
Title	Operations Manager		
Phone	570.884.1200	Email Address	

d. Volume of waste shipped to processing or disposal facility in the previous year.
10,957,380 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

a. Solid waste permit number(s) for processing or disposal facility being utilized.
HDWD #C-20

b.

Facility Name	Eureka Resources, LLC		
Address Line 1	419 Second Street		
Address Line 1			
Address City State ZIP	Williamsport	PA	17701
Municipality	Williamsport	County	Lycoming

c.

Facility Contact Name	Tim Butter or Dan Ertel		
Title	Owners		
Phone	570.323.2535	Email Address	

d. Volume of waste shipped to processing or disposal facility in the previous year.
106,000 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

2. Beneficial Use

a. Has the waste been approved for beneficial use? ☐ Yes ☐ No
If "Yes", list the general permit number or approval number.

b. Volume of waste beneficially used in the previous year.
☐ cu yd ☐ gal ☐ lb ☐ ton (check one)

SECTION D. CERTIFICATION

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this Annual Report and all attached documents and that based upon my inquiry of those individuals immediately responsible for obtaining the information, I verify that the submitted information is true, accurate and complete to the best of my knowledge. I understand that the submission of false information herein is made subject to the penalties of 18 Pa. C.S. §4904, relating to unsworn falsification to authorities, which include fine and imprisonment.

Check the following, if applicable:

☐ I certify the information required in Section B-A, General Properties was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

☐ I certify the information required in Section B-B, Chemical Analysis was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

☐ I certify the information required in Section B-C, Process Description and Schematic, was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

Name of Responsible Official: John Smelko

Title: Manager, Environmental and Regulatory Compliance

Signature: John J Smelko

Date: 02/28/11

RWC801 Pit Water

PROCESS DESCRIPTION:

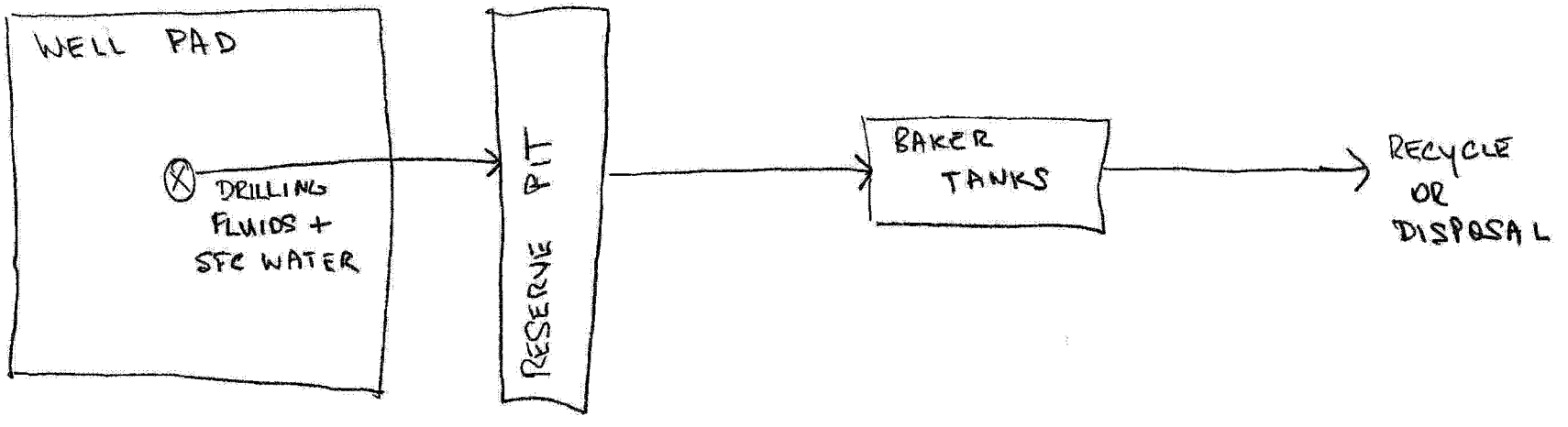
This waste stream is generated from the collection of drilling fluids (solids and liquids) that are pumped into a reserve pit. Additionally, some surface runoff from the well pad is present in the reserve pit. As the solids settle to the bottom, the water is pumped out of the pit into Baker tanks and either recycled or disposed at a wastewater treatment plant.

SAMPLING METHOD:

Using a sterile dipper and nitrile gloves, a grab sample was collected from the reserve pit and placed into the appropriate laboratory provided glassware.

Samples were packed on ice and placed into coolers provided by URS. They were shipped priority overnight via FedEx to Pace Laboratories.

RWC 8 PIT WATER



Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

February 01, 2011

Mr. Jim Pinta
URS Corporation
Foster Plaza 4
501 Holiday Drive, Suite 300
Pittsburgh, PA 15220

RE: Project: KLG 39938634.00018
Pace Project No.: 3038789

Dear Mr. Pinta:
Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Timothy Reed

timothy.reed@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: KLG 39938634.00018
Pace Project No.: 3038789

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

SAMPLE ANALYTE COUNT

Project: KLG 38938634.00018
Pace Project No.: 9038789

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9038789001	[redacted] RWG801 FitWater LQ	EPA 8081	SJG	23	PASI-PA
		EPA 8082	SJG	9	PASI-PA
		SM 2340B	SAB	3	PASI-PA
		EPA 6010B	SAB	23	PASI-PA
		EPA 6010	SAB	1	PASI-PA
		EPA 7470	CTS	1	PASI-PA
		EPA 8270	SPL	75	PASI-PA
		EPA 8260	JAS	54	PASI-PA
		EPA 900.0m	JCZ	2	PASI-PA
		EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	AMK	1	PASI-PA
		ASTM D5174-97	JCZ	1	PASI-PA
		HSL-300m	MBT	1	PASI-PA
		EPA 1010	JES	1	PASI-PA
		EPA 1664A	DLH	1	PASI-PA
		SM 2310B	JSS	1	PASI-PA
		SM 2320B	JSS	1	PASI-PA
		SM 2540C	AMS	1	PASI-PA
		SM 2540D	AMS	1	PASI-PA
		SM 4500-H+B	JSS	1	PASI-PA
		SM 5210B	JSS	1	PASI-PA
		SM 5540C	JES	1	PASI-PA
		EPA 9050	BKH	1	PASI-PA
		EPA 300.0	BKH	1	PASI-PA
		EPA 350.3	DJT	1	PASI-PA
		EPA 351.2	DJT	1	PASI-PA
		EPA 410.4	DLH	1	PASI-PA
		EPA 420.1	JSS	1	PASI-PA
		SM 4500-Cl-E	DJT	1	PASI-PA
		SM 4500-NO3 F	DJT	1	PASI-PA
		SW-846 7.3.3.2 Modified	JES	1	PASI-PA
		SW-846 7.3.4.2	JES	1	PASI-PA
		ASTM D516-90,02	BKH	1	PASI-PA

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ANALYTICAL RESULTS

Project: KLG 39938634.00018
Pace Project No.: 3038789

Sample: [redacted] RWC801 Pit Lab ID: 3038789001 Collected: 12/15/10 13:05 Received: 12/16/10 12:00 Matrix: Water

Comments: -8270- This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510							
Aldrin	ND	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	309-00-2	
alpha-BHC	ND	ug/L	0.26	10	12/21/10 16:48	12/30/10 20:32	319-84-6	
beta-BHC	ND	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	319-85-7	
delta-BHC	ND	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	0.26	10	12/21/10 16:48	12/30/10 20:32	58-89-9	
alpha-Chlordane	0.11	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	5103-71-9	
gamma-Chlordane	ND	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	5103-74-2	
4,4'-DDD	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	72-54-8	
4,4'-DDE	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	72-55-9	
4,4'-DDT	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	50-29-3	
Dieldrin	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	60-57-1	
Endosulfan I	ND	ug/L	0.26	10	12/21/10 16:48	12/30/10 20:32	959-98-8	
Endosulfan II	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	33213-65-9	
Endosulfan sulfate	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	1031-07-8	
Endrin	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	72-20-8	
Endrin aldehyde	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	7421-93-4	
Endrin ketone	ND	ug/L	0.052	1	12/21/10 16:48	12/27/10 21:47	53494-70-5	
Heptachlor	ND	ug/L	0.26	10	12/21/10 16:48	12/30/10 20:32	76-44-8	
Heptachlor epoxide	ND	ug/L	0.026	1	12/21/10 16:48	12/27/10 21:47	1024-57-3	
Methoxychlor	ND	ug/L	0.26	1	12/21/10 16:48	12/27/10 21:47	72-43-5	
Toxaphene	ND	ug/L	0.64	1	12/21/10 16:48	12/27/10 21:47	8001-35-2	
Tetrachloro-m-xylene (S)	19	%	30-150	1	12/21/10 16:48	12/27/10 21:47	877-09-8	
Decachlorobiphenyl (S)	10	%	30-150	1	12/21/10 16:48	12/27/10 21:47	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.26	1	12/21/10 16:49	12/23/10 19:09	11096-82-5	
Tetrachloro-m-xylene (S)	8	%	30-150	1	12/21/10 16:49	12/23/10 19:09	877-09-8	
Decachlorobiphenyl (S)	8	%	30-150	1	12/21/10 16:49	12/23/10 19:09	2051-24-3	
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B							
Calcium	55100	ug/L	500	1		12/22/10 15:12	7440-70-2	
Magnesium	23200	ug/L	200	1		12/22/10 15:12	7439-95-4	
Total Hardness	333	mg/L	2.3	1		12/22/10 15:12		
6010 MET ICP	Analytical Method: EPA 6010B Preparation Method: EPA 3005							
Aluminum	584000	ug/L	250	1	12/20/10 14:17	12/22/10 15:12	7429-90-5	
Arsenic	564	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7440-38-2	
Barium	21200	ug/L	50.0	1	12/20/10 14:17	12/22/10 15:12	7440-39-3	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: KLG 59936634.00018
Pace Project No.: 3038769

Sample: [redacted]RWC801 Pit Water Lo Lab ID: 3038769001 Collected: 12/15/10 13:05 Received: 12/16/10 12:00 Matrix: Water

Comments: 8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010B Preparation Method: EPA 3005							
Beryllium	46.6	ug/L	5.0	1	12/20/10 14:17	12/22/10 15:12	7440-41-7	
Boron	1730	ug/L	250	1	12/20/10 14:17	12/22/10 15:12	7440-42-8	
Cadmium	13.6	ug/L	5.0	1	12/20/10 14:17	12/22/10 15:12	7440-43-9	
Calcium	475000	ug/L	5000	1	12/20/10 14:17	12/22/10 15:12	7440-70-2	
Chromium	1790	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7440-47-3	
Cobalt	583	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7440-48-4	
Copper	3040	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7440-50-8	
Iron	788000	ug/L	250	1	12/20/10 14:17	12/22/10 15:12	7439-89-6	
Lead	8640	ug/L	10.0	1	12/20/10 14:17	12/22/10 15:12	7439-92-1	
Lithium	1620	ug/L	250	1	12/20/10 14:17	12/22/10 15:12	7439-93-2	
Magnesium	118000	ug/L	1000	1	12/20/10 14:17	12/22/10 15:12	7439-95-4	
Manganese	17400	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7439-96-5	
Molybdenum	1980	ug/L	100	1	12/20/10 14:17	12/22/10 15:12	7439-98-7	
Nickel	2820	ug/L	50.0	1	12/20/10 14:17	12/22/10 15:12	7440-02-0	
Selenium	652	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7782-49-2	
Silver	32.5	ug/L	5.0	1	12/20/10 14:17	12/22/10 15:12	7440-22-4	
Sodium	824000	ug/L	5000	1	12/20/10 14:17	12/22/10 15:12	7440-23-5	
Strontium	15600	ug/L	25.0	1	12/20/10 14:17	12/22/10 15:12	7440-24-6	
Thallium	ND	ug/L	50.0	1	12/20/10 14:17	12/22/10 15:12	7440-28-0	
Zinc	8650	ug/L	50.0	1	12/20/10 14:17	12/22/10 15:12	7440-66-6	
6010 MET ICP, Lab Filtered	Analytical Method: EPA 6010 Preparation Method: EPA 3005							
Iron, Dissolved	7670	ug/L	50.0	1	12/20/10 12:14	12/21/10 13:12	7439-89-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	12.4	ug/L	0.69	1	12/20/10 14:00	12/21/10 11:38	7439-97-6	
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	120-82-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	106-46-7	
1-Methylnaphthalene	17.8	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	90-12-0	
2,4,5-Trichlorophenol	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	1.9	1	12/17/10 14:38	12/20/10 18:11	88-06-2	
2,4-Dichlorophenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	120-83-2	
2,4-Dimethylphenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	105-67-9	
2,4-Dinitrophenol	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	606-20-2	
2-Chloronaphthalene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	91-58-7	
2-Chlorophenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	95-57-8	
2-Methylnaphthalene	46.7	ug/L	10.2	10	12/17/10 14:38	12/22/10 15:40	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	95-48-7	

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ANALYTICAL RESULTS

Project: KLG 39958633.00018
Pace Project No.: 3038789

Sample: [redacted] RWC801 Pit Lab ID: 3038789001 Collected: 12/16/10 13:05 Received: 12/16/10 12:00 Matrix: Water

Comments: *8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
2-Nitroaniline	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	88-74-4	
2-Nitrophenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	88-75-5	
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2.0	1	12/17/10 14:38	12/20/10 18:11		
3,3'-Dichlorobenzidine	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	91-94-1	
3-Nitroaniline	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	99-09-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	534-52-1	
4-Bromophenylphenyl ether	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	101-55-3	
4-Chloro-3-methylphenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	59-50-7	
4-Chloroaniline	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	106-47-8	
4-Chlorophenylphenyl ether	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	7005-72-3	
4-Nitroaniline	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	100-01-6	
4-Nitrophenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	100-02-7	
Acenaphthene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	208-96-8	
Anthracene	1.4	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	120-12-7	
Azobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	103-33-3	
Benzo(a)anthracene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	56-55-3	
Benzo(a)pyrene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	207-08-9	
Benzoic acid	ND	ug/L	102	1	12/17/10 14:38	12/20/10 18:11	65-85-0	
Benzyl alcohol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	100-51-6	
Butylbenzylphthalate	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	85-68-7	
Carbazole	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	86-74-8	
Chrysene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	218-01-9	
Di-n-butylphthalate	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	84-74-2	
Di-n-octylphthalate	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	117-84-0	
Dibenz(a,h)anthracene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	53-70-3	
Dibenzofuran	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	132-64-9	
Diethylphthalate	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	84-66-2	
Dimethylphthalate	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	131-11-3	
Fluoranthene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	206-44-0	
Fluorene	3.4	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	87-68-3	
Hexachlorobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	77-47-4	
Hexachloroethane	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	193-39-5	
Isophorone	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	78-59-1	
N-Nitroso-di-n-propylamine	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	621-64-7	
N-Nitrosodimethylamine	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	62-75-9	
N-Nitrosodiphenylamine	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	86-30-6	
Naphthalene	19*	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	91-20-3	

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ANALYTICAL RESULTS

Project: KLG-39936634.00018
Pace Project No.: 3038789

Sample: [redacted] RWS801 Pit Water LQ Lab ID: 3038789001 Collected: 12/16/10 13:05 Received: 12/16/10 12:00 Matrix: Water

Comments: -8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Nitrobenzene	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	98-95-3	
Pentachlorophenol	ND	ug/L	2.6	1	12/17/10 14:38	12/20/10 18:11	87-86-5	
Phenanthrene	4.8	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	85-01-8	
Phenol	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	108-95-2	
Pyrene	1.3	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	129-00-0	
bis(2-Chloroethoxy)methane	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	108-60-1	
bis(2-Ethylhexyl)phthalate	3.7	ug/L	1.0	1	12/17/10 14:38	12/20/10 18:11	117-81-7	
Nitrobenzene-d5 (S)	3	%	35-114	1	12/17/10 14:38	12/20/10 18:11	4165-60-0	S1
2-Fluorobiphenyl (S)	5	%	43-116	1	12/17/10 14:38	12/20/10 18:11	321-60-8	S1
Terphenyl-d14 (S)	0	%	33-141	1	12/17/10 14:38	12/20/10 18:11	1718-51-0	S1
Phenol-d6 (S)	10	%	10-110	1	12/17/10 14:38	12/20/10 18:11	13127-88-3	
2-Fluorophenol (S)	2	%	21-110	1	12/17/10 14:38	12/20/10 18:11	367-12-4	S1
2,4,6-Tribromophenol (S)	2	%	10-123	1	12/17/10 14:38	12/20/10 18:11	118-79-6	S1
8260 MSV	Analytical Method: EPA 8260							
1,1,1-Trichloroethane	ND	ug/L	10.0	10		12/20/10 23:43	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	10.0	10		12/20/10 23:43	79-34-5	
1,1,2-Trichloroethane	ND	ug/L	10.0	10		12/20/10 23:43	79-00-5	
1,1-Dichloroethane	ND	ug/L	10.0	10		12/20/10 23:43	75-34-3	
1,1-Dichloroethene	ND	ug/L	10.0	10		12/20/10 23:43	75-35-4	
1,2,4-Trichlorobenzene	ND	ug/L	10.0	10		12/20/10 23:43	120-82-1	
1,2,4-Trimethylbenzene	49.6	ug/L	10.0	10		12/20/10 23:43	95-63-6	
1,2-Dichlorobenzene	ND	ug/L	10.0	10		12/20/10 23:43	95-50-1	
1,2-Dichloroethane	ND	ug/L	10.0	10		12/20/10 23:43	107-06-2	
1,2-Dichloroethane (Total)	ND	ug/L	20.0	10		12/20/10 23:43	540-59-0	
1,2-Dichloropropane	ND	ug/L	10.0	10		12/20/10 23:43	78-87-5	
1,3,5-Trimethylbenzene	18.0	ug/L	10.0	10		12/20/10 23:43	108-67-8	
1,3-Dichlorobenzene	ND	ug/L	10.0	10		12/20/10 23:43	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	10.0	10		12/20/10 23:43	106-46-7	
2-Butanone (MEK)	ND	ug/L	100	10		12/20/10 23:43	78-93-3	
2-Hexanone	ND	ug/L	100	10		12/20/10 23:43	591-78-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	100	10		12/20/10 23:43	108-10-1	
Acetone	278	ug/L	100	10		12/20/10 23:43	67-64-1	
Benzene	ND	ug/L	10.0	10		12/20/10 23:43	71-43-2	
Bromochloromethane	ND	ug/L	10.0	10		12/20/10 23:43	74-97-5	
Bromodichloromethane	ND	ug/L	10.0	10		12/20/10 23:43	75-27-4	
Bromoform	ND	ug/L	10.0	10		12/20/10 23:43	75-25-2	
Bromomethane	ND	ug/L	10.0	10		12/20/10 23:43	74-83-9	
Carbon disulfide	ND	ug/L	10.0	10		12/20/10 23:43	75-15-0	
Carbon tetrachloride	ND	ug/L	10.0	10		12/20/10 23:43	56-23-5	
Chlorobenzene	ND	ug/L	10.0	10		12/20/10 23:43	108-90-7	
Chloroethane	ND	ug/L	10.0	10		12/20/10 23:43	75-00-3	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: KLG:39938634.00018
Pace Project No.: 3938789

Sample: [redacted] RWC601 PM Lab ID: 3938789001 Collected: 12/15/10 13:05 Received: 12/16/10 12:00 Matrix: Water
Water LL

Comments: • S270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Chloroform	ND	ug/L	10.0	10		12/20/10 23:43	67-66-3	
Chloromethane	ND	ug/L	10.0	10		12/20/10 23:43	74-87-3	
Dibromochloromethane	ND	ug/L	10.0	10		12/20/10 23:43	124-48-1	
Ethylbenzene	11.7	ug/L	10.0	10		12/20/10 23:43	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	10.0	10		12/20/10 23:43	98-82-8	
Methyl-tert-butyl ether	ND	ug/L	10.0	10		12/20/10 23:43	1634-04-4	
Methylene Chloride	ND	ug/L	10.0	10		12/20/10 23:43	75-09-2	
Naphthalene	ND	ug/L	20.0	10		12/20/10 23:43	91-20-3	
Styrene	ND	ug/L	10.0	10		12/20/10 23:43	100-42-5	
Tetrachloroethene	ND	ug/L	10.0	10		12/20/10 23:43	127-18-4	
Toluene	12.8	ug/L	10.0	10		12/20/10 23:43	108-88-3	
Trichloroethene	ND	ug/L	10.0	10		12/20/10 23:43	79-01-6	
Vinyl chloride	ND	ug/L	10.0	10		12/20/10 23:43	75-01-4	
Xylene (Total)	72.5	ug/L	30.0	10		12/20/10 23:43	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/L	10.0	10		12/20/10 23:43	156-59-2	
cis-1,3-Dichloropropene	ND	ug/L	10.0	10		12/20/10 23:43	10061-01-5	
m&p-Xylene	45.8	ug/L	20.0	10		12/20/10 23:43	179601-23-1	
n-Butylbenzene	ND	ug/L	10.0	10		12/20/10 23:43	104-51-8	
n-Propylbenzene	ND	ug/L	10.0	10		12/20/10 23:43	103-65-1	
o-Xylene	27.0	ug/L	10.0	10		12/20/10 23:43	95-47-6	
p-Isopropyltoluene	ND	ug/L	10.0	10		12/20/10 23:43	99-87-6	
sec-Butylbenzene	ND	ug/L	10.0	10		12/20/10 23:43	135-98-8	
trans-1,2-Dichloroethene	ND	ug/L	10.0	10		12/20/10 23:43	156-60-5	
trans-1,3-Dichloropropene	ND	ug/L	10.0	10		12/20/10 23:43	10061-02-6	
4-Bromofluorobenzene (S)	81	%	70-130	10		12/20/10 23:43	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130	10		12/20/10 23:43	17060-07-0	
Toluene-d8 (S)	86	%	70-130	10		12/20/10 23:43	2037-26-5	
1010 Flashpoint, Closed Cup	Analytical Method: EPA 1010							
Flashpoint	>200	deg F	80.0	1		12/17/10 10:49		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	ND	mg/L	4.8	1		12/17/10 08:15		
2310B Acidity, Total	Analytical Method: SM 2310B							
Acidity, Total	ND	mg/L	10.0	1		12/23/10 15:00		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity, Total as CaCO3	1280	mg/L	10.0	1		12/23/10 15:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	3070	mg/L	10.0	1		12/17/10 21:02		

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(724)850-5600

ANALYTICAL RESULTS

Project: KLG 39938634.00018
Pace Project No.: 3038789

Sample: [redacted]WC801 Plt. Water EQ Lab ID: 3038789001 Collected: 12/15/10 13:05 Received: 12/16/10 12:00 Matrix: Water

Comments: 8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	17500	mg/L	4.0	1		12/17/10 19:02		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	10.2	Std. Units	1.0	1		12/16/10 20:08		H6
5210B BOD, 5 day	Analytical Method: SM 5210B Preparation Method: SM 5210B							
BOD, 5 day	1090	mg/L	2.0	1	12/17/10 12:00	12/22/10 15:45		
5540C MBAS Surfactants	Analytical Method: SM 5540C							
Surfactants	ND	mg/L	100	1000		12/16/10 18:27		
9050 Specific Conductance	Analytical Method: EPA 9050							
Specific Conductance	3660	umhos/cm	1.0	1		01/12/11 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Bromide	5.0	mg/L	1.2	20		12/21/10 00:00	24959-67-9	
350.1 Ammonia, Distilled	Analytical Method: EPA 350.1							
Ammonia, Distilled	152	mg/L	1.0	10		12/17/10 11:54		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	13.1	mg/L	2.0	2		01/11/11 14:00	7727-37-9	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	1170	mg/L	25.0	1		01/07/11 10:10		
Phenolics, Total Recoverable	Analytical Method: EPA 420.1							
Phenol	0.075	mg/L	0.050	1		12/16/10 22:05	108-95-2	
4500 Chloride	Analytical Method: SM 4500-Cl-E							
Chloride	854	mg/L	50.0	20		12/22/10 11:57	16887-00-6	
SM4500NO3-F, NO3-NO2	Analytical Method: SM 4500-NO3 F							
Nitrogen, NO2 plus NO3	0.86	mg/L	0.10	1		12/17/10 08:30		
733C Reactive Cyanide	Analytical Method: SW-846 7.3.3.2 Modified							
Cyanide, Reactive	ND	mg/L	0.0050	1		12/20/10 20:45		
734S Reactive Sulfide	Analytical Method: SW-846 7.3.4.2							
Sulfide, Reactive	ND	mg/L	1.0	1		12/17/10 20:26		

REPORT OF LABORATORY ANALYSIS

COC-EPA000055

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Greensburg, PA 15601
(724)850-5600

ANALYTICAL RESULTS

Project: KLG 30938634.00018
Pace Project No.: 30387789

Sample: [redacted] RWC801 Pit Lab ID: 30387789003 Collected: 12/15/10 13:05 Received: 12/18/10 12:00 Matrix: Water
Water LQ

Comments: • 8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02							
Sulfate	187	mg/L	100	10		01/11/11 13:56	14808-79-8	

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QUALITY CONTROL DATA

Project: KLG 39936634.00018
Pace Project No.: 3038789

QC Batch: OEXT/6803
QC Batch Method: EPA 3510
Analysis Method: EPA 8081
Analysis Description: 8081A GCS Pesticides
Associated Lab Samples: 3038789001

METHOD BLANK: 251016 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4,4'-DDD	ug/L	ND	0.050	12/27/10 21:02	
4,4'-DDE	ug/L	ND	0.050	12/27/10 21:02	
4,4'-DDT	ug/L	ND	0.050	12/27/10 21:02	
Aldrin	ug/L	ND	0.025	12/27/10 21:02	
alpha-BHC	ug/L	ND	0.025	12/27/10 21:02	
alpha-Chlordane	ug/L	ND	0.025	12/27/10 21:02	
beta-BHC	ug/L	ND	0.025	12/27/10 21:02	
delta-BHC	ug/L	ND	0.025	12/27/10 21:02	
Dieldrin	ug/L	ND	0.050	12/27/10 21:02	
Endosulfan I	ug/L	ND	0.025	12/27/10 21:02	
Endosulfan II	ug/L	ND	0.050	12/27/10 21:02	
Endosulfan sulfate	ug/L	ND	0.050	12/27/10 21:02	
Endrin	ug/L	ND	0.050	12/27/10 21:02	
Endrin aldehyde	ug/L	ND	0.050	12/27/10 21:02	
Endrin ketone	ug/L	ND	0.050	12/27/10 21:02	
gamma-BHC (Lindane)	ug/L	ND	0.025	12/27/10 21:02	
gamma-Chlordane	ug/L	ND	0.025	12/27/10 21:02	
Heptachlor	ug/L	ND	0.025	12/27/10 21:02	
Heptachlor epoxide	ug/L	ND	0.025	12/27/10 21:02	
Methoxychlor	ug/L	ND	0.25	12/27/10 21:02	
Toxaphene	ug/L	ND	0.50	12/27/10 21:02	
Decachlorobiphenyl (S)	%	71	30-150	12/27/10 21:02	
Tetrachloro-m-xylene (S)	%	43	30-150	12/27/10 21:02	

LABORATORY CONTROL SAMPLE: 251017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	ug/L	.4	0.36	90	50-152	
4,4'-DDE	ug/L	.4	0.33	82	54-133	
4,4'-DDT	ug/L	.4	0.27	66	55-156	
Aldrin	ug/L	.4	0.26	64	68-112	L2
alpha-BHC	ug/L	.4	0.26	64	66-118	L2
alpha-Chlordane	ug/L	.4	0.30	76	50-150	
beta-BHC	ug/L	.4	0.31	77	58-107	
delta-BHC	ug/L	.4	0.35	88	48-120	
Dieldrin	ug/L	.4	0.33	82	71-134	
Endosulfan I	ug/L	.4	0.29	73	63-121	
Endosulfan II	ug/L	.4	0.35	86	64-131	
Endosulfan sulfate	ug/L	.4	0.37	93	57-131	
Endrin	ug/L	.4	0.34	84	57-112	
Endrin aldehyde	ug/L	.4	0.41	102	46-191	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

LABORATORY CONTROL SAMPLE: 251017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin ketone	ug/L	.4	0.38	96	50-150	
gamma-BHC (Lindane)	ug/L	.4	0.28	71	66-118	
gamma-Chlordane	ug/L	.4	0.30	76	50-150	
Heptachlor	ug/L	.4	0.25	62	64-105	L2
Heptachlor epoxide	ug/L	.4	0.30	74	66-114	
Methoxychlor	ug/L	.4	0.39	97	50-150	
Decachlorobiphenyl (S)	%			38	30-150	
Tetrachloro-m-xylene (S)	%			53	30-150	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: OEXT/6804
QC Batch Method: EPA 3510
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Associated Lab Samples: 3038789001

METHOD BLANK: 251022 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.25	12/23/10 18:53	
Decachlorobiphenyl (S)	%	72	30-150	12/23/10 18:53	
Tetrachloro-m-xylene (S)	%	50	30-150	12/23/10 18:53	

LABORATORY CONTROL SAMPLE: 251023

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	2.5	1.6	64	55-145	
PCB-1221 (Aroclor 1221)	ug/L		ND			
PCB-1232 (Aroclor 1232)	ug/L		ND			
PCB-1242 (Aroclor 1242)	ug/L		ND			
PCB-1248 (Aroclor 1248)	ug/L		ND			
PCB-1254 (Aroclor 1254)	ug/L		ND			
PCB-1260 (Aroclor 1260)	ug/L	2.5	2.0	81	55-145	
Decachlorobiphenyl (S)	%			41	30-150	
Tetrachloro-m-xylene (S)	%			58	30-150	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: MPRP/5166
QC Batch Method: EPA 3005
Analysis Method: EPA 6010B
Analysis Description: 6010 MET
Associated Lab Samples: 3038789001

METHOD BLANK: 250794
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	50.0	12/21/10 17:32	
Arsenic	ug/L	ND	5.0	12/21/10 17:32	
Barium	ug/L	ND	10.0	12/21/10 17:32	
Beryllium	ug/L	ND	1.0	12/21/10 17:32	
Boron	ug/L	ND	50.0	12/21/10 17:32	
Cadmium	ug/L	ND	1.0	12/21/10 17:32	
Calcium	ug/L	ND	1000	12/21/10 17:32	
Chromium	ug/L	ND	5.0	12/21/10 17:32	
Cobalt	ug/L	ND	5.0	12/21/10 17:32	
Copper	ug/L	ND	5.0	12/21/10 17:32	
Iron	ug/L	ND	50.0	12/21/10 17:32	
Lead	ug/L	ND	2.0	12/21/10 17:32	
Lithium	ug/L	ND	50.0	12/21/10 17:32	
Magnesium	ug/L	ND	200	12/21/10 17:32	
Manganese	ug/L	ND	5.0	12/21/10 17:32	
Molybdenum	ug/L	ND	20.0	12/21/10 17:32	
Nickel	ug/L	ND	10.0	12/21/10 17:32	
Selenium	ug/L	ND	5.0	12/21/10 17:32	
Silver	ug/L	ND	1.0	12/21/10 17:32	
Sodium	ug/L	ND	1000	12/21/10 17:32	
Strontium	ug/L	ND	5.0	12/21/10 17:32	
Thallium	ug/L	ND	10.0	12/21/10 17:32	
Zinc	ug/L	ND	10.0	12/21/10 17:32	

LABORATORY CONTROL SAMPLE: 250795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4860	97	80-120	
Arsenic	ug/L	500	491	98	80-120	
Barium	ug/L	500	495	99	80-120	
Beryllium	ug/L	500	497	99	80-120	
Boron	ug/L	500	492	98	80-120	
Cadmium	ug/L	500	507	101	80-120	
Calcium	ug/L	5000	5020	100	80-120	
Chromium	ug/L	500	510	102	80-120	
Cobalt	ug/L	500	493	99	80-120	
Copper	ug/L	500	503	101	80-120	
Iron	ug/L	5000	4980	100	80-120	
Lead	ug/L	500	497	99	80-120	
Lithium	ug/L	500	491	98	80-120	
Magnesium	ug/L	5000	5000	100	80-120	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

LABORATORY CONTROL SAMPLE: 250795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	484	97	80-120	
Molybdenum	ug/L	500	489	98	80-120	
Nickel	ug/L	500	518	104	80-120	
Selenium	ug/L	500	501	100	80-120	
Silver	ug/L	250	256	103	80-120	
Sodium	ug/L	5000	4890	98	80-120	
Strontium	ug/L	500	508	102	80-120	
Thallium	ug/L	500	506	101	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE SAMPLE: 250797

Parameter	Units	3038835004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	375	5000	6930	131	75-125	M0
Arsenic	ug/L	7.3	500	493	97	75-125	
Barium	ug/L	13.4	500	518	101	75-125	
Beryllium	ug/L	ND	500	509	102	75-125	
Boron	ug/L	ND	500	488	97	75-125	
Cadmium	ug/L	ND	500	493	99	75-125	
Calcium	ug/L	1930	5000	6840	98	75-125	
Chromium	ug/L	46.4	500	545	100	75-125	
Cobalt	ug/L	ND	500	480	95	75-125	
Copper	ug/L	ND	500	505	101	75-125	
Iron	ug/L	3320	5000	8280	99	75-125	
Lead	ug/L	ND	500	478	96	75-125	
Lithium	ug/L	ND	500	493	99	75-125	
Magnesium	ug/L	913	5000	5770	97	75-125	
Manganese	ug/L	171	500	677	101	75-125	
Molybdenum	ug/L	ND	500	483	95	75-125	
Nickel	ug/L	47.3	500	544	99	75-125	
Selenium	ug/L	5.1	500	500	99	75-125	
Silver	ug/L	1.1	250	246	98	75-125	
Sodium	ug/L	2030	5000	7000	99	75-125	
Strontium	ug/L	7.0	500	509	100	75-125	
Thallium	ug/L	ND	500	477	95	75-125	
Zinc	ug/L	ND	500	506	100	75-125	

SAMPLE DUPLICATE: 250796

Parameter	Units	3038835004 Result	Dup Result	RPD	Qualifiers
Aluminum	ug/L	375	501	29	D6
Arsenic	ug/L	7.3	5.4	29	D6
Barium	ug/L	13.4	20.1	40	D6
Beryllium	ug/L	ND	.067J		
Boron	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

SAMPLE DUPLICATE: 250796

Parameter	Units	3038835004 Result	Dup Result	RPD	Qualifiers
Cadmium	ug/L	ND	ND		
Calcium	ug/L	1930	1930	.2	
Chromium	ug/L	46.4	46.2	.3	
Cobalt	ug/L	ND	2J		
Copper	ug/L	ND	2.3J		
Iron	ug/L	3320	3390	2	
Lead	ug/L	ND	1J		
Lithium	ug/L	ND	ND		
Magnesium	ug/L	913	922	1	
Manganese	ug/L	171	175	2	
Molybdenum	ug/L	ND	7.1J		
Nickel	ug/L	47.3	45.5	4	
Selenium	ug/L	5.1	2J		
Silver	ug/L	1.1	ND		
Sodium	ug/L	2030	1680	19	
Strontium	ug/L	7.0	7.2	2	
Thallium	ug/L	ND	ND		
Zinc	ug/L	ND	7.3J		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: MPRP/5171
QC Batch Method: EPA 3005
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 3038789001

METHOD BLANK: 250913 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	50.0	12/21/10 12:06	

LABORATORY CONTROL SAMPLE: 250914

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	5040	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 250916 250917

Parameter	Units	3038750001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Iron, Dissolved	ug/L	ND	5000	5000	5070	5040	101	101	75-125	.7	

SAMPLE DUPLICATE: 250915

Parameter	Units	3038750001 Result	Dup Result	RPD	Qualifiers
Iron, Dissolved	ug/L	ND	4.3J		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: MERP/2481
QC Batch Method: EPA 7470
Analysis Method: EPA 7470
Analysis Description: 7470 Mercury
Associated Lab Samples: 3038789001

METHOD BLANK: 250980 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	12/21/10 11:12	

LABORATORY CONTROL SAMPLE: 250981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1	1.1	109	85-115	

MATRIX SPIKE SAMPLE: 250983

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.6	104	85-115	

SAMPLE DUPLICATE: 250982

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Mercury	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: OEXT/6782
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 Water MSSV
Associated Lab Samples: 3038789001

METHOD BLANK: 249852
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/20/10 17:28	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/20/10 17:28	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/20/10 17:28	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/20/10 17:28	
1-Methylnaphthalene	ug/L	ND	1.0	12/20/10 17:28	
2,4,5-Trichlorophenol	ug/L	ND	2.5	12/20/10 17:28	
2,4,6-Trichlorophenol	ug/L	ND	1.0	12/20/10 17:28	
2,4-Dichlorophenol	ug/L	ND	1.0	12/20/10 17:28	
2,4-Dimethylphenol	ug/L	ND	1.0	12/20/10 17:28	
2,4-Dinitrophenol	ug/L	ND	2.5	12/20/10 17:28	
2,4-Dinitrotoluene	ug/L	ND	1.0	12/20/10 17:28	
2,6-Dinitrotoluene	ug/L	ND	1.0	12/20/10 17:28	
2-Chloronaphthalene	ug/L	ND	1.0	12/20/10 17:28	
2-Chlorophenol	ug/L	ND	1.0	12/20/10 17:28	
2-Methylnaphthalene	ug/L	ND	1.0	12/20/10 17:28	
2-Methylphenol(o-Cresol)	ug/L	ND	1.0	12/20/10 17:28	
2-Nitroaniline	ug/L	ND	2.5	12/20/10 17:28	
2-Nitrophenol	ug/L	ND	1.0	12/20/10 17:28	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	2.0	12/20/10 17:28	
3,3'-Dichlorobenzidine	ug/L	ND	1.0	12/20/10 17:28	
3-Nitroaniline	ug/L	ND	2.5	12/20/10 17:28	
4,6-Dinitro-2-methylphenol	ug/L	ND	2.5	12/20/10 17:28	
4-Bromophenylphenyl ether	ug/L	ND	1.0	12/20/10 17:28	
4-Chloro-3-methylphenol	ug/L	ND	1.0	12/20/10 17:28	
4-Chloroaniline	ug/L	ND	1.0	12/20/10 17:28	
4-Chlorophenylphenyl ether	ug/L	ND	1.0	12/20/10 17:28	
4-Nitroaniline	ug/L	ND	2.5	12/20/10 17:28	
4-Nitrophenol	ug/L	ND	1.0	12/20/10 17:28	
Acenaphthene	ug/L	ND	1.0	12/20/10 17:28	
Acenaphthylene	ug/L	ND	1.0	12/20/10 17:28	
Anthracene	ug/L	ND	1.0	12/20/10 17:28	
Azobenzene	ug/L	ND	1.0	12/20/10 17:28	
Benzo(a)anthracene	ug/L	ND	1.0	12/20/10 17:28	
Benzo(a)pyrene	ug/L	ND	1.0	12/20/10 17:28	
Benzo(b)fluoranthene	ug/L	ND	1.0	12/20/10 17:28	
Benzo(g,h,i)perylene	ug/L	ND	1.0	12/20/10 17:28	
Benzo(k)fluoranthene	ug/L	ND	1.0	12/20/10 17:28	
Benzoic acid	ug/L	ND	100	12/20/10 17:28	
Benzyl alcohol	ug/L	ND	1.0	12/20/10 17:28	
bis(2-Chloroethoxy)methane	ug/L	ND	1.0	12/20/10 17:28	
bis(2-Chloroethyl) ether	ug/L	ND	1.0	12/20/10 17:28	
bis(2-Chloroisopropyl) ether	ug/L	ND	1.0	12/20/10 17:28	
bis(2-Ethylhexyl)phthalate	ug/L	ND	1.0	12/20/10 17:28	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

METHOD BLANK: 249852 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	1.0	12/20/10 17:28	
Carbazole	ug/L	ND	1.0	12/20/10 17:28	
Chrysene	ug/L	ND	1.0	12/20/10 17:28	
Di-n-butylphthalate	ug/L	ND	1.0	12/20/10 17:28	
Di-n-octylphthalate	ug/L	ND	1.0	12/20/10 17:28	
Dibenz(a,h)anthracene	ug/L	ND	1.0	12/20/10 17:28	
Dibenzofuran	ug/L	ND	1.0	12/20/10 17:28	
Diethylphthalate	ug/L	ND	1.0	12/20/10 17:28	
Dimethylphthalate	ug/L	ND	1.0	12/20/10 17:28	
Fluoranthene	ug/L	ND	1.0	12/20/10 17:28	
Fluorene	ug/L	ND	1.0	12/20/10 17:28	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	12/20/10 17:28	
Hexachlorobenzene	ug/L	ND	1.0	12/20/10 17:28	
Hexachlorocyclopentadiene	ug/L	ND	1.0	12/20/10 17:28	
Hexachloroethane	ug/L	ND	1.0	12/20/10 17:28	
Indeno(1,2,3-cd)pyrene	ug/L	ND	1.0	12/20/10 17:28	
Isophorone	ug/L	ND	1.0	12/20/10 17:28	
N-Nitroso-di-n-propylamine	ug/L	ND	1.0	12/20/10 17:28	
N-Nitrosodimethylamine	ug/L	ND	1.0	12/20/10 17:28	
N-Nitrosodiphenylamine	ug/L	ND	1.0	12/20/10 17:28	
Naphthalene	ug/L	ND	1.0	12/20/10 17:28	
Nitrobenzene	ug/L	ND	1.0	12/20/10 17:28	
Pentachlorophenol	ug/L	ND	2.5	12/20/10 17:28	
Phenanthrene	ug/L	ND	1.0	12/20/10 17:28	
Phenol	ug/L	ND	1.0	12/20/10 17:28	
Pyrene	ug/L	ND	1.0	12/20/10 17:28	
2,4,6-Tribromophenol (S)	%	44	10-123	12/20/10 17:28	
2-Fluorobiphenyl (S)	%	38	43-116	12/20/10 17:28	S1
2-Fluorophenol (S)	%	18	21-110	12/20/10 17:28	S1
Nitrobenzene-d5 (S)	%	36	35-114	12/20/10 17:28	
Phenol-d6 (S)	%	14	10-110	12/20/10 17:28	
Terphenyl-d14 (S)	%	54	33-141	12/20/10 17:28	

LABORATORY CONTROL SAMPLE: 249853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	5	2.3	47	39-98	
1,2-Dichlorobenzene	ug/L		ND			
1,3-Dichlorobenzene	ug/L		ND			
1,4-Dichlorobenzene	ug/L	5	1.9	39	20-124	
1-Methylnaphthalene	ug/L	5	2.7	53	40-140	
2,4,5-Trichlorophenol	ug/L		ND			
2,4,6-Trichlorophenol	ug/L		ND			
2,4-Dichlorophenol	ug/L		ND			
2,4-Dimethylphenol	ug/L		ND			

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

LABORATORY CONTROL SAMPLE: 249853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrophenol	ug/L		ND			
2,4-Dinitrotoluene	ug/L	5	2.4	49	39-139	
2,6-Dinitrotoluene	ug/L		ND			
2-Chloronaphthalene	ug/L		ND			
2-Chlorophenol	ug/L	5	2.4	48	23-134	
2-Methylnaphthalene	ug/L	5	2.6	52	40-140	
2-Methylphenol(o-Cresol)	ug/L		ND			
2-Nitroaniline	ug/L		ND			
2-Nitrophenol	ug/L		ND			
3&4-Methylphenol(m&p Cresol)	ug/L		ND			
3,3'-Dichlorobenzidine	ug/L		ND			
3-Nitroaniline	ug/L		ND			
4,6-Dinitro-2-methylphenol	ug/L		ND			
4-Bromophenylphenyl ether	ug/L		ND			
4-Chloro-3-methylphenol	ug/L	5	2.7	54	22-147	
4-Chloroaniline	ug/L		ND			
4-Chlorophenylphenyl ether	ug/L		ND			
4-Nitroaniline	ug/L		ND			
4-Nitrophenol	ug/L	5	1.6	32	1-132	
Acenaphthene	ug/L	5	2.6	53	27-133	
Acenaphthylene	ug/L	5	2.6	53	33-145	
Anthracene	ug/L	5	2.9	57	27-133	
Azobenzene	ug/L		ND			
Benzo(a)anthracene	ug/L	5	3.8	76	33-142	
Benzo(a)pyrene	ug/L	5	3.6	72	17-163	
Benzo(b)fluoranthene	ug/L	5	3.7	73	24-159	
Benzo(g,h,i)perylene	ug/L	5	4.5	90	1-219	
Benzo(k)fluoranthene	ug/L	5	4.1	81	11-162	
Benzoic acid	ug/L		ND			
Benzyl alcohol	ug/L		ND			
bis(2-Chloroethoxy)methane	ug/L		ND			
bis(2-Chloroethyl) ether	ug/L		ND			
bis(2-Chloroisopropyl) ether	ug/L		ND			
bis(2-Ethylhexyl)phthalate	ug/L		ND			
Butylbenzylphthalate	ug/L		ND			
Carbazole	ug/L		ND			
Chrysene	ug/L	5	3.8	77	17-168	
Di-n-butylphthalate	ug/L		ND			
Di-n-octylphthalate	ug/L		ND			
Dibenz(a,h)anthracene	ug/L	5	4.4	87	1-227	
Dibenzofuran	ug/L		ND			
Diethylphthalate	ug/L		ND			
Dimethylphthalate	ug/L		ND			
Fluoranthene	ug/L	5	3.5	70	26-137	
Fluorene	ug/L	5	2.8	55	59-121	L0
Hexachloro-1,3-butadiene	ug/L		ND			
Hexachlorobenzene	ug/L		ND			
Hexachlorocyclopentadiene	ug/L		ND			

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

LABORATORY CONTROL SAMPLE: 249853

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachloroethane	ug/L		ND			
Indeno(1,2,3-cd)pyrene	ug/L	5	4.1	82	1-171	
Isophorone	ug/L		ND			
N-Nitroso-di-n-propylamine	ug/L	5	2.9	58	1-230	
N-Nitrosodimethylamine	ug/L		ND			
N-Nitrosodiphenylamine	ug/L		ND			
Naphthalene	ug/L	5	2.4	48	21-133	
Nitrobenzene	ug/L		ND			
Pentachlorophenol	ug/L	5	5.3	106	14-176	
Phenanthrene	ug/L	5	3.0	60	54-120	
Phenol	ug/L	5	.96J	19	5-112	
Pyrene	ug/L	5	3.8	77	26-127	
2,4,6-Tribromophenol (S)	%			60	10-123	
2-Fluorobiphenyl (S)	%			51	43-116	
2-Fluorophenol (S)	%			23	21-110	
Nitrobenzene-d5 (S)	%			51	35-114	
Phenol-d6 (S)	%			18	10-110	
Terphenyl-d14 (S)	%			82	33-141	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: MSV/8058
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 3038789001

METHOD BLANK: 250813
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/20/10 15:02	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/20/10 15:02	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/20/10 15:02	
1,1-Dichloroethane	ug/L	ND	1.0	12/20/10 15:02	
1,1-Dichloroethene	ug/L	ND	1.0	12/20/10 15:02	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/20/10 15:02	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	12/20/10 15:02	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/20/10 15:02	
1,2-Dichloroethane	ug/L	ND	1.0	12/20/10 15:02	
1,2-Dichloropropane	ug/L	ND	1.0	12/20/10 15:02	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	12/20/10 15:02	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/20/10 15:02	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/20/10 15:02	
2-Butanone (MEK)	ug/L	ND	10.0	12/20/10 15:02	
2-Hexanone	ug/L	ND	10.0	12/20/10 15:02	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	12/20/10 15:02	
Acetone	ug/L	ND	10.0	12/20/10 15:02	
Benzene	ug/L	ND	1.0	12/20/10 15:02	
Bromochloromethane	ug/L	ND	1.0	12/20/10 15:02	
Bromodichloromethane	ug/L	ND	1.0	12/20/10 15:02	
Bromoform	ug/L	ND	1.0	12/20/10 15:02	
Bromomethane	ug/L	ND	1.0	12/20/10 15:02	
Carbon disulfide	ug/L	ND	1.0	12/20/10 15:02	
Carbon tetrachloride	ug/L	ND	1.0	12/20/10 15:02	
Chlorobenzene	ug/L	ND	1.0	12/20/10 15:02	
Chloroethane	ug/L	ND	1.0	12/20/10 15:02	
Chloroform	ug/L	ND	1.0	12/20/10 15:02	
Chloromethane	ug/L	ND	1.0	12/20/10 15:02	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/20/10 15:02	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/20/10 15:02	
Dibromochloromethane	ug/L	ND	1.0	12/20/10 15:02	
Ethylbenzene	ug/L	ND	1.0	12/20/10 15:02	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	12/20/10 15:02	
m&p-Xylene	ug/L	ND	2.0	12/20/10 15:02	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/20/10 15:02	
Methylene Chloride	ug/L	ND	1.0	12/20/10 15:02	
n-Butylbenzene	ug/L	ND	1.0	12/20/10 15:02	
n-Propylbenzene	ug/L	ND	1.0	12/20/10 15:02	
Naphthalene	ug/L	ND	2.0	12/20/10 15:02	
o-Xylene	ug/L	ND	1.0	12/20/10 15:02	
p-Isopropyltoluene	ug/L	ND	1.0	12/20/10 15:02	
sec-Butylbenzene	ug/L	ND	1.0	12/20/10 15:02	
Styrene	ug/L	ND	1.0	12/20/10 15:02	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

METHOD BLANK: 250813 Matrix: Water

Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ug/L	ND	1.0	12/20/10 15:02	
Toluene	ug/L	ND	1.0	12/20/10 15:02	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/20/10 15:02	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/20/10 15:02	
Trichloroethene	ug/L	ND	1.0	12/20/10 15:02	
Vinyl chloride	ug/L	ND	1.0	12/20/10 15:02	
Xylene (Total)	ug/L	ND	3.0	12/20/10 15:02	
1,2-Dichloroethane-d4 (S)	%	98	70-130	12/20/10 15:02	
4-Bromofluorobenzene (S)	%	86	70-130	12/20/10 15:02	
Toluene-d8 (S)	%	86	70-130	12/20/10 15:02	

LABORATORY CONTROL SAMPLE: 250814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	19.4	97	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	17.6	88	70-130	
1,1,2-Trichloroethane	ug/L	20	17.5	88	70-130	
1,1-Dichloroethane	ug/L	20	19.0	95	70-130	
1,1-Dichloroethene	ug/L	20	18.0	90	70-130	
1,2,4-Trichlorobenzene	ug/L	20	17.7	89	70-130	
1,2,4-Trimethylbenzene	ug/L	20	17.9	89	70-130	
1,2-Dichlorobenzene	ug/L	20	17.1	85	70-130	
1,2-Dichloroethane	ug/L	20	20.0	100	70-130	
1,2-Dichloropropane	ug/L	20	16.6	83	70-130	
1,3,5-Trimethylbenzene	ug/L	20	18.4	92	70-130	
1,3-Dichlorobenzene	ug/L	20	17.4	87	70-130	
1,4-Dichlorobenzene	ug/L	20	17.5	87	70-130	
2-Butanone (MEK)	ug/L	20	18.3	92	70-130	
2-Hexanone	ug/L	20	15.9	80	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	15.2	76	70-130	
Acetone	ug/L	20	18.4	92	70-130	
Benzene	ug/L	20	17.3	87	70-130	
Bromochloromethane	ug/L	20	19.7	98	70-130	
Bromodichloromethane	ug/L	20	16.3	82	70-130	
Bromoform	ug/L	20	16.0	80	70-130	
Bromomethane	ug/L	20	21.7	109	70-130	
Carbon disulfide	ug/L	20	19.9	99	70-130	
Carbon tetrachloride	ug/L	20	18.9	94	70-130	
Chlorobenzene	ug/L	20	17.7	88	70-130	
Chloroethane	ug/L	20	13.7	69	70-130	L2
Chloroform	ug/L	20	19.5	98	70-130	
Chloromethane	ug/L	20	14.0	70	70-130	
cis-1,2-Dichloroethene	ug/L	20	19.1	95	70-130	
cis-1,3-Dichloropropene	ug/L	20	17.5	87	70-130	
Dibromochloromethane	ug/L	20	16.9	85	70-130	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

LABORATORY CONTROL SAMPLE: 250814

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	17.5	87	70-130	
Isopropylbenzene (Cumene)	ug/L	20	18.2	91	70-130	
m&p-Xylene	ug/L	40	36.3	91	70-130	
Methyl-tert-butyl ether	ug/L	20	21.1	106	70-130	
Methylene Chloride	ug/L	20	17.6	88	70-130	
n-Butylbenzene	ug/L	20	18.4	92	70-130	
n-Propylbenzene	ug/L	20	18.5	92	70-130	
Naphthalene	ug/L	20	17.7	89	70-130	
o-Xylene	ug/L	20	17.6	88	70-130	
p-Isopropyltoluene	ug/L	20	18.1	90	70-130	
sec-Butylbenzene	ug/L	20	18.5	93	70-130	
Styrene	ug/L	20	17.3	86	70-130	
Tetrachloroethene	ug/L	20	18.0	90	70-130	
Toluene	ug/L	20	17.7	88	70-130	
trans-1,2-Dichloroethene	ug/L	20	19.0	95	70-130	
trans-1,3-Dichloropropene	ug/L	20	16.6	83	70-130	
Trichloroethene	ug/L	20	17.7	88	70-130	
Vinyl chloride	ug/L	20	14.5	72	70-130	
Xylene (Total)	ug/L	60	53.9	90	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			86	70-130	
Toluene-d8 (S)	%			84	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 250815 250816

Parameter	Units	3038679001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,1,1-Trichloroethane	ug/L	ND	20	20	17.2	17.2	86	86	70-130	.01	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	16.5	16.3	83	82	70-130	1	
1,1,2-Trichloroethane	ug/L	ND	20	20	16.2	16.0	81	80	70-130	.9	
1,1-Dichloroethane	ug/L	ND	20	20	18.1	17.5	91	88	70-130	3	
1,1-Dichloroethene	ug/L	ND	20	20	17.3	16.9	86	85	70-130	2	
1,2,4-Trichlorobenzene	ug/L	ND	20	20	15.5	15.3	77	77	70-130	1	
1,2,4-Trimethylbenzene	ug/L	ND	20	20	16.5	16.4	83	82	70-130	.5	
1,2-Dichlorobenzene	ug/L	ND	20	20	16.2	16.3	81	81	70-130	.5	
1,2-Dichloroethane	ug/L	ND	20	20	17.9	17.3	89	86	70-130	3	
1,2-Dichloropropane	ug/L	ND	20	20	15.6	15.5	78	77	70-130	.9	
1,3,5-Trimethylbenzene	ug/L	ND	20	20	17.0	16.9	85	85	70-130	.4	
1,3-Dichlorobenzene	ug/L	ND	20	20	16.5	16.3	83	82	70-130	1	
1,4-Dichlorobenzene	ug/L	ND	20	20	16.6	16.0	83	80	70-130	4	
2-Butanone (MEK)	ug/L	ND	20	20	15.8	15.5	79	78	70-130	2	
2-Hexanone	ug/L	ND	20	20	15.1	14.8	75	74	70-130	2	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	20	20	14.7	13.9	73	70	70-130	5	
Acetone	ug/L	ND	20	20	18.4	18.6	92	93	70-130	1	
Benzene	ug/L	ND	20	20	16.8	16.8	84	84	70-130	.07	
Bromochloromethane	ug/L	ND	20	20	18.2	17.3	91	87	70-130	5	
Bromodichloromethane	ug/L	ND	20	20	13.5	13.8	67	69	70-130	2	M0

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 250815 250816

Parameter	Units	3038679001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Bromoform	ug/L	ND	20	20	11.7	12.2	58	61	70-130	5	M0
Bromomethane	ug/L	ND	20	20	11.2	16.8	56	84	70-130	40	M0,R1
Carbon disulfide	ug/L	ND	20	20	18.6	19.3	93	97	70-130	4	
Carbon tetrachloride	ug/L	ND	20	20	15.6	15.4	78	77	70-130	2	
Chlorobenzene	ug/L	ND	20	20	16.5	16.3	83	82	70-130	1	
Chloroethane	ug/L	ND	20	20	16.4	16.9	82	85	70-130	4	
Chloroform	ug/L	ND	20	20	17.6	17.2	88	86	70-130	2	
Chloromethane	ug/L	ND	20	20	13.6	13.0	68	65	70-130	5	M0
cis-1,2-Dichloroethene	ug/L	ND	20	20	17.9	17.6	89	88	70-130	2	
cis-1,3-Dichloropropene	ug/L	ND	20	20	15.2	15.1	76	76	70-130	.4	
Dibromochloromethane	ug/L	ND	20	20	13.3	13.1	66	66	70-130	1	M0
Ethylbenzene	ug/L	ND	20	20	16.7	16.4	84	82	70-130	2	
Isopropylbenzene (Cumene)	ug/L	ND	20	20	17.7	17.5	88	87	70-130	1	
m&p-Xylene	ug/L	ND	40	40	34.5	34.3	86	86	70-130	.4	
Methyl-tert-butyl ether	ug/L	1.8	20	20	18.5	18.9	83	86	70-130	2	
Methylene Chloride	ug/L	ND	20	20	16.4	16.1	82	80	70-130	2	
n-Butylbenzene	ug/L	ND	20	20	17.9	17.8	89	89	70-130	.2	
n-Propylbenzene	ug/L	ND	20	20	18.0	17.7	90	89	70-130	1	
Naphthalene	ug/L	ND	20	20	14.9	14.8	75	74	70-130	.8	
o-Xylene	ug/L	ND	20	20	16.7	16.2	84	81	70-130	3	
p-Isopropyltoluene	ug/L	ND	20	20	17.6	17.1	88	85	70-130	3	
sec-Butylbenzene	ug/L	ND	20	20	18.1	18.0	91	90	70-130	.7	
Styrene	ug/L	ND	20	20	15.5	15.0	78	75	70-130	3	
Tetrachloroethene	ug/L	ND	20	20	17.7	17.5	88	88	70-130	1	
Toluene	ug/L	ND	20	20	17.2	16.8	86	84	70-130	2	
trans-1,2-Dichloroethene	ug/L	ND	20	20	17.6	17.0	88	85	70-130	3	
trans-1,3-Dichloropropene	ug/L	ND	20	20	14.3	14.1	72	71	70-130	2	
Trichloroethene	ug/L	ND	20	20	16.3	16.2	81	81	70-130	.8	
Vinyl chloride	ug/L	ND	20	20	15.5	15.1	77	76	70-130	2	
Xylene (Total)	ug/L	ND	60	60	51.2	50.6	85	84	70-130	1	
1,2-Dichloroethane-d4 (S)	%						98	99	70-130		
4-Bromofluorobenzene (S)	%						87	87	70-130		
Toluene-d8 (S)	%						85	85	70-130		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7911
QC Batch Method: EPA 1010
Analysis Method: EPA 1010
Analysis Description: 1010 Flash Point, Closed Cup
Associated Lab Samples: 3038789001

METHOD BLANK: 250086
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Flashpoint	deg F	>200	60.0	12/17/10 19:49	

SAMPLE DUPLICATE: 250085

Parameter	Units	3038789001 Result	Dup Result	RPD	Qualifiers
Flashpoint	deg F	>200	>200		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7904
QC Batch Method: EPA 1664A
Analysis Method: EPA 1664A
Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 3038789001

METHOD BLANK: 249862 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	12/17/10 08:15	

METHOD BLANK: 249864 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	12/17/10 08:15	

LABORATORY CONTROL SAMPLE: 249863

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	42.1	37.2	88	78-114	

LABORATORY CONTROL SAMPLE: 249865

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	42.1	39.9	95	78-114	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7936 Analysis Method: SM 2310B
QC Batch Method: SM 2310B Analysis Description: 2310B Acidity, Total
Associated Lab Samples: 3038789001

METHOD BLANK: 251179 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acidity, Total	mg/L	ND	10.0	12/21/10 15:00	

METHOD BLANK: 251180 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acidity, Total	mg/L	ND	10.0	12/21/10 15:00	

SAMPLE DUPLICATE: 251181

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Acidity, Total	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7937
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Associated Lab Samples: 3038789001

METHOD BLANK: 251182 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	12/21/10 15:00	

METHOD BLANK: 251183 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	12/21/10 15:00	

LABORATORY CONTROL SAMPLE: 251184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	20	20.0	100	85-115	

MATRIX SPIKE SAMPLE: 251185

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	100	100	94	80-120	M0

SAMPLE DUPLICATE: 251186

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	8J		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7913
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 3038789001

METHOD BLANK: 250347
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/17/10 21:02	

LABORATORY CONTROL SAMPLE: 250348

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	920	92	85-115	

SAMPLE DUPLICATE: 250349

Parameter	Units	3038854007 Result	Dup Result	RPD	Qualifiers
Total Dissolved Solids	mg/L	219	224	2	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7907
QC Batch Method: SM 2540D
Analysis Method: SM 2540D
Analysis Description: 2540D Total Suspended Solids
Associated Lab Samples: 3038789001

METHOD BLANK: 250055 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	4.0	12/17/10 19:02	

SAMPLE DUPLICATE: 250056

Parameter	Units	3038796002 Result	Dup Result	RPD	Qualifiers
Total Suspended Solids	mg/L	12.0	13.0	8	D6

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7900
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 3038789001

SAMPLE DUPLICATE: 249826

Parameter	Units	3038796002 Result	Dup Result	RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.8	7.8	.1	H6

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7910
QC Batch Method: SM 5210B
Analysis Method: SM 5210B
Analysis Description: 5210B BOD, 5 day
Associated Lab Samples: 3038789001

METHOD BLANK: 250082 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	12/22/10 15:45	B5

LABORATORY CONTROL SAMPLE: 250083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
BOD, 5 day	mg/L	198	181	91	84.6-115.4	

SAMPLE DUPLICATE: 250084

Parameter	Units	3038734001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	85.0	97.2	13	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/7898
QC Batch Method: SM 5540C
Analysis Method: SM 5540C
Analysis Description: 5540C MBAS Surfactants
Associated Lab Samples: 3038789001

METHOD BLANK: 249760 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Surfactants	mg/L	ND	0.10	12/16/10 18:27	

LABORATORY CONTROL SAMPLE: 249761

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Surfactants	mg/L	1	0.99	99	85-115	SU

MATRIX SPIKE SAMPLE: 249762

Parameter	Units	3038796001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Surfactants	mg/L	ND	1	1.0	99	85-115	

SAMPLE DUPLICATE: 249763

Parameter	Units	3038796001 Result	Dup Result	RPD	Qualifiers
Surfactants	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WET/8095
QC Batch Method: EPA 9050
Analysis Method: EPA 9050
Analysis Description: 9050 Specific Conductance
Associated Lab Samples: 3038789001

METHOD BLANK: 257101 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	01/12/11 00:00	

LABORATORY CONTROL SAMPLE: 257102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1410	100	85-115	

SAMPLE DUPLICATE: 257103

Parameter	Units	3038789001 Result	Dup Result	RPD	Qualifiers
Specific Conductance	umhos/cm	3650	3660	3	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5958 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: 300.0 IC Anions 28day
Associated Lab Samples: 3038789001

METHOD BLANK: 250976 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	ND	0.062	12/21/10 00:00	

LABORATORY CONTROL SAMPLE: 250977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	2	1.8	91	80-120	

MATRIX SPIKE SAMPLE: 250978

Parameter	Units	3038407001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	ND	2	1.8	90	80-120	

SAMPLE DUPLICATE: 250979

Parameter	Units	3038407001 Result	Dup Result	RPD	Qualifiers
Bromide	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5937
QC Batch Method: EPA 350.1
Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia, Distilled
Associated Lab Samples: 3038789001

METHOD BLANK: 249926 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ammonia, Distilled	mg/L	ND	0.10	12/17/10 11:52	

LABORATORY CONTROL SAMPLE: 249927

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ammonia, Distilled	mg/L	4	4.2	105	85-115	

MATRIX SPIKE SAMPLE: 249928

Parameter	Units	3038801002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ammonia, Distilled	mg/L	0.27	4	4.0	94	85-115	

SAMPLE DUPLICATE: 249929

Parameter	Units	3038801002 Result	Dup Result	RPD	Qualifiers
Ammonia, Distilled	mg/L	0.27	0.30	11	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/6068 Analysis Method: EPA 351.2
QC Batch Method: EPA 351.2 Analysis Description: 351.2 TKN
Associated Lab Samples: 3038789001

METHOD BLANK: 256881 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	1.0	01/11/11 13:57	

LABORATORY CONTROL SAMPLE: 256882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	4	3.9	98	90-110	

MATRIX SPIKE SAMPLE: 256883

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	4	4.2	101	90-110	

SAMPLE DUPLICATE: 256884

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	.32J		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/6055
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 3038789001

METHOD BLANK: 256202 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

METHOD BLANK: 256204 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

METHOD BLANK: 256205 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

LABORATORY CONTROL SAMPLE: 256203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	298	99	90-110	

MATRIX SPIKE SAMPLE: 256206

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	150	156	100	90-110	

SAMPLE DUPLICATE: 256207

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5930 Analysis Method: EPA 420.1
QC Batch Method: EPA 420.1 Analysis Description: 420.1 Phenolics
Associated Lab Samples: 3038789001

METHOD BLANK: 249806 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenol	mg/L	ND	0.050	12/16/10 22:05	

LABORATORY CONTROL SAMPLE: 249807

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	.25	0.25	101	85-115	

MATRIX SPIKE SAMPLE: 249809

Parameter	Units	3038804001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	0.18	.25	0.43	98	85-115	

SAMPLE DUPLICATE: 249808

Parameter	Units	3038804001 Result	Dup Result	RPD	Qualifiers
Phenol	mg/L	0.18	0.21	13	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5971 Analysis Method: SM 4500-Cl-E
QC Batch Method: SM 4500-Cl-E Analysis Description: 4500 Chloride
Associated Lab Samples: 3038789001

METHOD BLANK: 251636 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	3.0	12/22/10 11:50	

METHOD BLANK: 251972 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	3.0	12/22/10 00:00	1c

LABORATORY CONTROL SAMPLE: 251637

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	40	38.9	97	85-115	

MATRIX SPIKE SAMPLE: 251638

Parameter	Units	3038958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	7.6	20	24.3	83	85-115	M1

SAMPLE DUPLICATE: 251639

Parameter	Units	3038958001 Result	Dup Result	RPD	Qualifiers
Chloride	mg/L	7.6	7.5	2	

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Greensburg, PA 15601
(724)850-5600

QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5934
QC Batch Method: SM 4500-NO3 F
Analysis Method: SM 4500-NO3 F
Analysis Description: SM4500NO3-F, Nitrate, Preserved
Associated Lab Samples: 3038789001

METHOD BLANK: 249854 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	ND	0.10	12/17/10 08:30	

LABORATORY CONTROL SAMPLE: 249855

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	4	3.9	98	85-115	

MATRIX SPIKE SAMPLE: 249856

Parameter	Units	3038614001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	3.7	5	8.8	101	85-115	

SAMPLE DUPLICATE: 249857

Parameter	Units	3038614001 Result	Dup Result	RPD	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	3.7	3.7	.2	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/5941
QC Batch Method: SW-846 7.3.3.2 Modified
Analysis Method: SW-846 7.3.3.2 Modified
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 3038789001

METHOD BLANK: 250091
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/L	ND	0.0050	12/20/10 20:45	

SAMPLE DUPLICATE: 250092

Parameter	Units	3038789001 Result	Dup Result	RPD	Qualifiers
Cyanide, Reactive	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: WETA/6067
QC Batch Method: ASTM D516-90,02
Analysis Method: ASTM D516-90,02
Analysis Description: ASTM D516-9002 Sulfate Water
Associated Lab Samples: 3038789001

METHOD BLANK: 256737 Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	10.0	01/11/11 13:38	

LABORATORY CONTROL SAMPLE: 256738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	30	30.5	102	85-115	

MATRIX SPIKE SAMPLE: 256739

Parameter	Units	3039317010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.6	20	38.8	106	85-115	

SAMPLE DUPLICATE: 256740

Parameter	Units	3039317010 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	17.6	18.7	6	

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ANALYTICAL RESULTS

Project: KLG 39938634.00018
Pace Project No.: 3038789

Sample: [redacted] WC801 Pit Lab ID: 3038789001 Collected: 12/15/10 13:05 Received: 12/16/10 12:00 Matrix: Water

PWS: Site ID: Sample Type:

Comments: +8270 - This sample yielded % recoveries for five surrogates that were outside acceptance limits. There was insufficient sample volume remaining for re-extraction analysis.

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0m	8.97 ± 5.88 (8.79)	pCi/L	12/21/10 14:32	12587-46-1	
Gross Beta	EPA 900.0m	49.8 ± 11.2 (8.95)	pCi/L	12/21/10 14:32	12587-47-2	
Radium-226	EPA 903.1	1.28 ± 1.27 (0.865)	pCi/L	12/29/10 12:29	13982-63-3	
Radium-228	EPA 904.0	8.69 ± 2.87 (3.95)	pCi/L	01/06/11 15:17	15262-20-1	2c
Total Uranium	ASTM D5174-97	80.5 ± 2.883 (0.210)	ug/L	12/22/10 09:39	7440-61-1	
Thorium-230	HSL-300m	0.516 ± 0.343 (0.486)	pCi/L	01/04/11 12:30	14269-63-7	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: RADC/7043
QC Batch Method: EPA 900.0m
Analysis Method: EPA 900.0m
Analysis Description: 900.0 Gross Alpha/Beta
Associated Lab Samples: 3038789001

METHOD BLANK: 250944
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Alpha	-0.044 ± 0.740 (1.93)	pCi/L	12/22/10 06:19	
Gross Beta	-0.235 ± 0.754 (1.87)	pCi/L	12/22/10 06:19	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: RADC/7044
QC Batch Method: ASTM D5174.97
Analysis Method: ASTM D5174.97
Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 3038789001

METHOD BLANK: 250945
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Total Uranium	0.153 ± 0.008 (0.210)	ug/L	12/22/10 09:14	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: RADC/7054
QC Batch Method: HSL-300m
Analysis Method: HSL-300m
Analysis Description: HSL300(AS) Actinides
Associated Lab Samples: 3038789001

METHOD BLANK: 250955
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Thorium-230	-0.061 ± 0.100 (0.319)	pCi/L	12/23/10 08:55	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: RADC/7056
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3038789001

METHOD BLANK: 250957
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	-0.166 ± 0.288 (0.725)	pCi/L	12/29/10 10:45	

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QUALITY CONTROL DATA

Project: KLG 39938634.00018
Pace Project No.: 3038789

QC Batch: RADC/7115
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3038789001

METHOD BLANK: 253830
Matrix: Water
Associated Lab Samples: 3038789001

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.645 ± 0.496 (0.977)	pCi/L	01/06/11 15:17	

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QUALIFIERS

Project: KLG 39938634.00018
Pace Project No.: 3038789

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.
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.
Act - Activity
Unc - Uncertainty
(MDC) - Minimum Detectable Concentration
Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: OEXT/6782
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: OEXT/6803
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.
Batch: OEXT/6804
[M5] A matrix spike/matrix spike duplicate was not performed for this batch due to insufficient sample volume.

ANALYTE QUALIFIERS

1c	ASTM BLANK
2c	MDC was not achieved. Sample was prepared at a reduced volume due to matrix issue.
B5	BOD seed blank was outside acceptance criteria. Reported results were accepted based on remaining quality control indicators.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
H6	Analysis initiated more than 15 minutes after sample collection.
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.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KLG:38938634.00018
Pace Project No.: 3038789

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
3038789001	[redacted]WC801 Pit Water LQ	EPA 3510	OEXT/6803	EPA 8081	GCSV/3105
3038789001	[redacted]WC801 Pit Water LQ	EPA 3510	OEXT/6804	EPA 8082	GCSV/3101
3038789001	[redacted]WC801 Pit Water LQ	SM 2340B	ICP/4823		
3038789001	[redacted]WC801 Pit Water LQ	EPA 3005	MPRP/5168	EPA 6010B	ICP/4701
3038789001	[redacted]WC801 Pit Water LQ	EPA 3005	MPRP/5171	EPA 6010	ICP/4703
3038789001	[redacted]WC801 Pit Water LQ	EPA 7470	MERP/2481	EPA 7470	MERC/2499
3038789001	[redacted]WC801 Pit Water LQ	EPA 3510	OEXT/6782	EPA 8270	MSSV/2618
3038789001	[redacted]WC801 Pit Water LQ	EPA 8260	MSV/8058		
3038789001	[redacted]WC801 Pit Water LQ	EPA 900.0m	RADC/7043		
3038789001	[redacted]WC801 Pit Water LQ	EPA 903.1	RADC/7056		
3038789001	[redacted]WC801 Pit Water LQ	EPA 904.0	RADC/7115		
3038789001	[redacted]WC801 Pit Water LQ	ASTM D5174-97	RADC/7044		
3038789001	[redacted]WC801 Pit Water LQ	HSL-300m	RADC/7054		
3038789001	[redacted]WC801 Pit Water LQ	EPA 1010	WET/7911		
3038789001	[redacted]WC801 Pit Water LQ	EPA 1664A	WET/7904		
3038789001	[redacted]WC801 Pit Water LQ	SM 2310B	WET/7936		
3038789001	[redacted]WC801 Pit Water LQ	SM 2320B	WET/7937		
3038789001	[redacted]WC801 Pit Water LQ	SM 2540C	WET/7913		
3038789001	[redacted]WC801 Pit Water LQ	SM 2540D	WET/7907		
3038789001	[redacted]WC801 Pit Water LQ	SM 4500-H+B	WET/7900		
3038789001	[redacted]WC801 Pit Water LQ	SM 5210B	WET/7910	SM 5210B	WET/7983
3038789001	[redacted]WC801 Pit Water LQ	SM 5540C	WET/7898		
3038789001	[redacted]WC801 Pit Water LQ	EPA 9050	WET/8095		
3038789001	[redacted]WC801 Pit Water LQ	EPA 300.0	WETA/5958		
3038789001	[redacted]WC801 Pit Water LQ	EPA 350.1	WETA/5937		
3038789001	[redacted]WC801 Pit Water LQ	EPA 351.2	WETA/6068		
3038789001	[redacted]WC801 Pit Water LQ	EPA 410.4	WETA/6056		
3038789001	[redacted]WC801 Pit Water LQ	EPA 420.1	WETA/5930		
3038789001	[redacted]WC801 Pit Water LQ	SM 4500-CN E	WETA/5971		
3038789001	[redacted]WC801 Pit Water LQ	SM 4500-NO3 F	WETA/5934		
3038789001	[redacted]WC801 Pit Water LQ	SW-846 7.3.3.2 Modified	WETA/5941		
3038789001	[redacted]WC801 Pit Water LQ	SW-846 7.3.4.2	WETA/5942		
3038789001	[redacted]WC801 Pit Water LQ	ASTM D516-90,02	WETA/6067		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: KLG 39938634.00018
Pace Project No.: 3038789

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

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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.

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: URS CORPORATION	Report To: JAMES_PINTA@URSCORP.COM	Attention: DAVID_TESTA@URSCORP.COM
Address: 501 HOLIDAY DRIVE	Copy To: MARC_HOLSINGER@URSCORP.COM	Company Name: URS CORPORATION
PITTSBURGH, PA 15220		Address: 501 HOLIDAY DR. PITTSBURGH, PA 15220
Email To: JAMES_PINTA@URSCORP.COM	Purchase Order No.:	Pace Quote Reference:
Phone: 412-503-4600 Fax:	Project Name: KCG	Pace Project Manager: TOM REED
Requested Due Date/TAT: 3 DAYS	Project Number: 34736634.00018	Pace Profile #:

Page: of

Regulatory Agency: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER

Site Location State: GA / IL / IN / MI / NC / OH / SC / WI / OTHER

Filtered (Y/N)

Requested Analysis: TAL / TOTAL METALS / DISSOLVED METALS / REACTIVE SULFIDE / REACTIVE CYANIDE

Residual Chlorine (Y/N)

Pace Project No./Lab I.D.: 3038759

Section D Required Client Information

ITEM #	SAMPLE ID (One Character per box. (A-Z, 0-9 / -) IDs MUST BE UNIQUE)	Samples		MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	TAL	TOTAL METALS	DISSOLVED METALS	REACTIVE SULFIDE/CYANIDE	Pace Project No./Lab I.D.
[redacted]		RWC801	S1	W	G	12-15	1:02	12-15	1:03	✓	✓	✓	✓	001
		RWC901	S2	W	G	12-15	1:04	12-15	1:04	✓	✓	✓	✓	
		RWC801	S3	W	G	12-15	1:05	12-15	1:05	✓	✓	✓	✓	
		RWC801	S4	W	G	12-15	1:06	12-15	1:06	✓	✓	✓	✓	
		RWC801	S5	W	G	12-15	1:07	12-15	1:08	✓	✓	✓	✓	
		RWC801	S6	W	G	12-15	1:09	12-15	1:10	✓	✓	✓	✓	
		RWC801	S7	W	G	12-15	1:11	12-15	1:11	✓	✓	✓	✓	
		RWC801	S8	W	G	12-15	1:12	12-15	1:12	✓	✓	✓	✓	
		RWC801	S9	W	G	12-15	1:13	12-15	1:13	✓	✓	✓	✓	
		RWC801	S10	W	G	12-15	1:14	12-15	1:15	✓	✓	✓	✓	
		RWC801	S11	W	G	12-15	1:16	12-15	1:17	✓	✓	✓	✓	
		RWC801	S12	W	G	12-15	1:17	12-15	1:18	✓	✓	✓	✓	

Additional Comments:

SAMPLE CONDITIONS

			Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
(signature)	12-16-10	1000	2.8	Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N
				Y/N	Y/N	Y/N

PRINT Name of SAMPLER: DEREK MURRAY

SIGNATURE of SAMPLER: (signature) DATE Signed (MM/DD/YY): 12-15-10

F-ALL-Q-020rev.07, 15-May-2007

COG-EPA000083

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Section A Required Client Information:
- Company: URS CORPORATION
- Address: 501 HOLIDAY DRIVE
- PITTSBURGH, PA 15220
- Email To: JAMES_PINTAR@URSCORP.COM
- Phone: 412-503-4600 Fax:
- Requested Due Date/TAT: 3 DAYS

Section B Required Project Information:
- Report To: JAMES PINTAR@URSCORP.COM
- Copy To: MARK HOUSTON@URSCORP.COM
- Purchase Order No.:
- Project Name: KCG
- Project Number: 39338634.00018

Section C Invoice Information:
- Attention: DAVID_TESTA@URSCORP.COM
- Company Name: URS CORPORATION
- Address: 501 HOLIDAY DR. PITTSBURGH, PA 15220
- Pace Quote Reference:
- Pace Project Manager: TIM REED
- Pace Profile #:

NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER

GA / IL / IN / MI / NC / OH / SC / WI / OTHER

Filtered (Y/N)

Requested Analysis: TCLP, Oil, REACTIVITY, CORROSIVITY, REACTIVE SULFIDE, REACTIVE CYANIDE

Residual Chlorine (Y/N)

Pace Project No./ Lab I.D.: 3038769

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) One Character per box. IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	TCLP	Oil	Reactivity	Corrosivity	Pace Project No./Lab I.D.
[redacted]	RWC801 S13	W	G	12-15	1:28	12-15	1:29	✓	✓	✓	✓	001
	RWC801 S14	W	G	12-15	1:29	12-15	1:29	✓	✓	✓	✓	
	RWC801 S15	W	G	12-15	1:30	12-15	1:20	✓	✓	✓	✓	
	RWC801 S16	W	G	12-15	1:21	12-15	1:21	✓	✓	✓	✓	
	RWC801 S17	W	G	12-15	1:22	12-15	1:22	✓	✓	✓	✓	
	RWC801 S18	W	G	12-15	1:22	12-15	1:23	✓	✓	✓	✓	
	RWC801 S19	W	G	12-15	1:24	12-15	1:24	✓	✓	✓	✓	
	RWC801 S20	W	G	12-15	1:25	12-15	1:25	✓	✓	✓	✓	
	RWC801 S21	W	G	12-15	1:26	12-15	1:26	✓	✓	✓	✓	↓
	RWC816 S22	SL	G	12-15	1:37	12-15	1:38	✓	✓	✓	✓	002
	RWC810 S23	SL	G	12-15	1:39	12-15	1:40	✓	✓	✓	✓	
	RWC810 S24	SL	G	12-15	1:41	12-15	1:42	✓	✓	✓	✓	↓

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			[signature]	12/16/10	1000	See Below · Y/N · Y/N · Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DEREK DICKEY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12-15-10

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

F-ALL-Q-020rev.07, 15-May-2007

COG-EPA000084

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CHAIN-OF-CUSTODY / Analytical Request Document

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Company: URS CORPORATION	Report To: JAMES PINTA@URSCORP.COM	Attention: DAVID TESTA @URSCORP.COM
Address: 501 HOLIDAY DRIVE	Copy To: MARK HOLSINGER@URSCORP.COM	Company Name: URS CORPORATION
PITTSBURGH, PA 15220		Address: 501 HOLIDAY DR. PITTSBURGH, PA 15220
Email To: JAMES PINTA@URSCORP.COM	Purchase Order No.:	Pace Quote Reference:
Phone: 412-503-4602 Fax:	Project Name: KCG	Pace Project Manager: TIM REED
Requested Due Date/TAT: 3 DAYS	Project Number: 39438634.00018	Pace Profile #:

Regulatory Agency: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER

Site Location State: GA / IL / IN / MI / NC / OH / SC / WI / OTHER

Filtered (Y/N)

Requested Analysis: TCLP, PH, IGNITABILITY, REACTIVE SULFIDE, REACTIVE CYANIDE

Residual Chlorine (Y/N)

Pace Project Number / Lab I.D.: 3038789

Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) One Character per box. Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	TCLP	PH	IGNITABILITY	REACTIVE SULFIDE	REACTIVE CYANIDE	Pace Project Number Lab I.D.
	[redacted] RWC 8 10 525	SL	G	12-15	1344	12-15	1346	✓	✓	✓	✓	✓	002
	[redacted] RWC 8 10 526	SL	G	12-15	1:47	12-15	1348	✓	✓	✓	✓	✓	↓
	[redacted] RWC 8 10 527	SL	G	12-15	1:49	12-15	1:50	✓	✓	✓	✓	✓	

Additional Comments:

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
			[signature]	12-16-10	1000	Y/N Y/N Y/N

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DEREK WILBERT

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12-15-10

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

F-ALL-Q-020rev.07, 15-May-2007

COG-EPA000085

Chemical analysis of the waste must include the following unless the generator certifies, in writing, either the concentration of the parameter or the absence of the parameter based on his/her knowledge of the manufacturing or pollution control process:

a. **Gross Analysis.** The total concentration of any constituent present at 1% or greater.

b. **Trace Analysis.** The total concentration of any constituent listed in Appendix VIII (40 CFR 261.34(e), as incorporated by reference at 25 Pa. Code 261a.1) which, based upon generator knowledge of the waste and the process generating the waste, are likely to be found in the waste at concentrations exceeding 50 ppm.

c. **Hazardous Waste Determination.** As required under 40 CFR262.11, and as incorporated by reference at 25 Pa. Code 262a.1.

   1) pH

   2) Ignitability

   3) Reactive Sulfide

   4) Reactive Cyanide

   5) Toxicity Characteristic Leaching Procedure (TCLP) - include all parameters found in 40 CFR 261.24, as incorporated by reference at 25 Pa. Code 261a.1, as well as pH of extract. Report all results in mg/L or as otherwise specified in method.

d. **Wastewater Produced from the Drilling, Completion and Production of a Marcellus Shale or Other Shale Gas Well.** In lieu of the Trace Analysis described in subsection b., the chemical analysis of wastewater produced from the drilling, completion and production of a Marcellus Shale or other shale gas well must include the following:

Acidity	Calcium	Lithium	Silver
Alkalinity (Total as CaCO3)	Chemical Oxygen Demand	Magnesium	Sodium
Aluminum	Chlorides	Manganese	Specific Conductance
Ammonia Nitrogen	Chromium	MBAS (Surfactants)	Strontium
Arsenic	Cobalt	Mercury	Sulfates
Barium	Copper	Molybdenum	Thorium
Benzene	Ethylene Glycol	Nickel	Toluene
Beryllium	Gross Alpha	Nitrite-Nitrate Nitrogen	Total Dissolved Solids
Biochemical Oxygen Demand	Gross Beta	Oil & Grease	Total Kjeldahl Nitrogen
Boron	Hardness (Total as CaCO3)	pH	Total Suspended Solids
Bromide	Iron – Dissolved	Phenolics (Total)	Uranium
Cadmium	Iron – Total	Radium 226	Zinc
	Lead	Radium 228	
		Selenium	

Additional constituents that are expected or known to be present in the wastewater

*Note - All metals reported as total.

Chemical analysis of the waste must include the following unless the generator certifies, in writing, either the concentration of the parameter or the absence of the parameter based on his/her knowledge of the manufacturing or pollution control process:

a. **Gross Analysis.** The total concentration of any constituent present at 1% or greater.

b. **Trace Analysis.** The total concentration of any constituent listed in Appendix VIII (40 CFR 261.34(e), as incorporated by reference at 25 Pa. Code 261a.1) which, based upon generator knowledge of the waste and the process generating the waste, are likely to be found in the waste at concentrations exceeding 50 ppm.

c. **Hazardous Waste Determination.** As required under 40 CFR262.11, and as incorporated by reference at 25 Pa. Code 262a.1.

1) pH

2) Ignitability

3) Reactive Sulfide

4) Reactive Cyanide

5) Toxicity Characteristic Leaching Procedure (TCLP) - include all parameters found in 40 CFR 261.24, as incorporated by reference at 25 Pa. Code 261a.1, as well as pH of extract. Report all results in mg/L or as otherwise specified in method.

d. **Wastewater Produced from the Drilling, Completion and Production of a Marcellus Shale or Other Shale Gas Well.** In lieu of the Trace Analysis described in subsection b., the chemical analysis of wastewater produced from the drilling, completion and production of a Marcellus Shale or other shale gas well must include the following:

Acidity	Calcium	Lithium	Silver
Alkalinity (Total as CaCO3)	Chemical Oxygen Demand	Magnesium	Sodium
Aluminum	Chlorides	Manganese	Specific Conductance
Ammonia Nitrogen	Chromium	MBAS (Surfactants)	Strontium - metal
Arsenic	Cobalt	Mercury	Sulfates
Barium	Copper	Molybdenum	Thorium → H/SL ~~228~~ ~~680~~ 230 ~~232~~
Benzene	Ethylene Glycol	Nickel	Toluene
Beryllium	Gross Alpha	Nitrite-Nitrate Nitrogen	Total Dissolved Solids
Biochemical Oxygen Demand	Gross Beta	Oil & Grease	Total Kjeldahl Nitrogen
Boron	Hardness (Total as CaCO3)	pH	Total Suspended Solids
Bromide	Iron – Dissolved	Phenolics (Total)	Uranium ~~234~~ 235 gamma ~~238~~
Cadmium	Iron – Total	Radium 226 gamma	Zinc
	Lead	Radium 228	
		Selenium	

Additional constituents that are expected or known to be present in the wastewater.

*Note - All metals reported as total.

Bottles 4 rad, dissolved metal, O/G, Phenols, metals, 4 - SVOC, 3 - 1L

COG-EPA000087

Timothy Reed - Form 26R chain of custody

From: <David_Testa@URSCorp.com>
To: <Derek_Murray@URSCorp.com>
Date: 12/13/2010 8:28 AM
Subject: Form 26R chain of custody
CC: <James_Pinta@URSCorp.com>, <timothy.reed@pacelabs.com>

5206 - 1

Derek:

Include the following on the Chains of Custody when submitting the Form 26R samples to Pace:

For **liquid** waste samples:

- TCL (gross)
- VOC's
- SVOC's
- TAL Metals
- PCB's
- Pesticides/Herbicides
- 26R Part d
- pH
- Ignitability
- Reactive sulfur
- Reactive cyanide

1558

Waters Lines 18+19 Together

Soils solid 20

Astm 21

For **solid** samples:

- TCL (gross)
- VOC's
- SVOC's
- TAL Metals
- PCB's
- 26R Part d
- pH
- Ignitability
- Reactive sulfur
- Reactive cyanide
- TCLP + Pest & Herbs

Sample Condition Upon Receipt

Pace Analytical

Client Name: URS

Project # 30356789

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

Tracking #: 873960510080

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals intact: ☐ yes ☐ no

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

Thermometer Used 3 (5) Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 1.8, 4.8 Biological Tissue is Frozen: Yes No

Date and Initials of person examining contents: ECH 10-16-10

Temp should be above freezing to 6°C

Comments:

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 Hold Time:	☑Yes	☐No	☐N/A
Short Hold Time Analysis (<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
Filtered volume received for Dissolved tests	☑Yes	☐No	☐N/A
Sample Labels match COC: -Includes date/time/ID/Analysis Matrix: AQ/SL	☑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)	☑Yes	☐No	
Samples checked for dechlorination:	☐Yes	☑No	☐N/A
Headspace in VOA Vials (>6mm):	☐Yes	☑No	☐N/A
Trip Blank Present:	☐Yes	☑No	☐N/A
Trip Blank Custody Seals Present	☐Yes	☐No	☑N/A
Pace Trip Blank Lot # (if purchased):			

1. 2ff 30475
2.
3.
4.
5.
6.
7.
8.
9.
10.
11.
12. RWC 801 S1→S21 is one Sample
RVC 810 S22→S27 is 2nd Sample
13. RWC801 4/4 bottles preserved with nitric acid
Initial when completed ECH Lot # of added preservative 94-3
14. unable to detect due to color of sample
15.
16.

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** _____

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e. out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

LABORATORY REPORT

Client
Pace Analytical
1638 Roseytown Road
Greensburg, PA 15601

Order Number
1021126

Project Number
~~N/A~~ 3038789

Issued
Tuesday, January 04, 2011

Total Number of Pages
4 (excluding C.O.C. and cooler receipt form)

Approved By :

QA Manager

1021126

NELAC Accreditation #E87688

Sample Summary

Client: Pace Analytical
Order Number: 1021126

Laboratory ID	Client ID	Matrix	Sampling Date
1021126-01	3038789001	Liquid	12/20/2010
1021126-02	3038789002	Solid	12/20/2010

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Report Narrative

Client: Pace Analytical
Order Number: 1021126

Solid sample results are reported on a wet weight basis except as noted.
No problems were encountered during analysis of this order number, except as noted.

Data Qualifiers:
B = Analyte found in the method blank
J = Estimated concentration of analyte between MDL (LOD) and Reporting Limit (LOQ)
C = Analyte has been confirmed by another instrument or method
E = Analyte exceeds the upper limit of the calibration curve.
D = Sample or extract was analyzed at a higher dilution
X = User defined data qualifier.
S = Surrogate out of control limits
U = Undetected
a = Not Accredited by NELAC

ND = Non Detected at LOQ
DF = Dilution Factor

Limit Of Quantitation (LOQ) = Laboratory Reporting Limit (not adjusted for dilution factor)
Limit Of Detection (LOD) = Laboratory Detection Limit

Matrices:
A = Air
C = Cream.
DW = Drinking Water
L = Liquid
O = Oil
SL = Sludge
SO = Soil
S = Solid
T = Tablet
TC = TCLP Extract
WW = Waste Water
W = Wipe

Estimated uncertainty values are available upon request.

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

January 04, 2011

Client: Pace Analytical
Address: 1638 Roscytown Road
Greensburg, PA 15601

Received: 12/21/2010
Project #: N/A

Client ID#	Lab ID#	Collected	Analyte	Result	Units	Matrix	Method	DF	LOQ	Run	Analyst
3038789001	1021126-01	20-Dec-10	Ethylene glycol	ND	mg/L	L	8015	4	50	23-Dec-10	JBN

Client ID#	Lab ID#	Collected	Analyte	Result	Units	Matrix	Method	DF	LOQ	Run	Analyst
3038789002	1021126-02	20-Dec-10	Ethylene glycol	ND	mg/kg	S	8015	4	50	23-Dec-10	JBN

"Analytical Integrity" · EPA Certified · NELAP Certified
3310 Win Street · Cuyahoga Falls, Ohio 44223 • Phone: 330-253-8211 · Fax: 330-253-4489
Web Site: www.settek.com

Chain of Custody

COC

Order ID: 1021126

P.O. No: ASR- 3038789

Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone: (724) 850-5600
FAX: (724) 850-5601

Request Date: 12/20/10
Shipped By: Fed Ex

Analysis Due Date: 1/7/2010

Certification Required: PA Cert

Pace Project No.: 3038789
Report/Invoice to: Tim Reed

Page 1 of 1

	Pace Sample ID:	Matrix:	Collection Date:	Time:	Analysis Requested:	Analytical Method:	Detection Limits:	Units Requested:
1	3038789001	WT	12/20/10		Ethylene Glycol			
2	3038789002	SL	12/20/10		Ethylene Glycol			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

1021126-01-02

Special Requirements:

Subcontract Lab: Summit Environmental Technolgies, Inc.
Address: 3310 Win Street
Cuyahoga Falls, OH 44223
Phone: 330-253-8211

Analysis Authorized By: _____ (Pace Agent Name) _____ (Title)

Acceptance of Terms By: _____ (Subcontract Lab Agent) _____ (Title)

Relinquised By: _____ (Signature & Affiliation) 12/20 (Date) 1555 (Time)

Received By: _____ (Signature & Affiliation) 12-21-10 (Date) 1140 (Time)

Relinquised By: _____ (Signature & Affiliation) _____ (Date) _____ (Time)

Received By: _____ (Signature & Affiliation) _____ (Date) _____ (Time)

Comments:

ASR (C015-0 31July2007)

COG-EPA000094

Summit Environmental Technologies, Inc.

Cooler Receipt Form

Order ID: 1021126 **COOLER**

Client: Pace Analytical Order Number: 1021126

Date Received: 12-21-10 Time Received: 1140

Number of Coolers/Boxes: 1 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice ✓ Blue ice	present / absent / melted		N/A
Sample Temperature	2.8 °C		N/A
C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles less than the size of a pea are acceptable.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

Rev. 6a

2540-PM-BWM0347 6/2005

pennsylvania
DEPARTMENT OF ENVIRONMENTAL PROTECTION

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
BUREAU OF WASTE MANAGEMENT

FORM 26R
CHEMICAL ANALYSIS OF RESIDUAL WASTE
ANNUAL REPORT BY THE GENERATOR

This form must be fully and accurately completed. All required information must be typed or legibly printed in the spaces provided. If additional space is necessary, identify each attached sheet as Form 26R, reference the item number and identify the date prepared. The date on attached sheets needs to match the date noted below.

General Reference 287.54

Date Prepared/Revised February 28, 2011

DEP USE ONLY
Date Received & General Notes

SECTION A. CLIENT (GENERATOR OF THE WASTE) INFORMATION

Company Name Cabot Oil & Gas Corporation				
If a Subsidiary, Name of Parent Company				**EPA Generator ID#**
Company Mailing Address Line 1 Five Penn Center West		**Company Mailing Address Line 2** Suite 401		
Company Address Last Line – City Pittsburgh	**State** PA	**Zip+4** 15276-0120	**Phone** 412.249.3850	**Ext**
Company Contact Last Name Smelko	**First Name** John	**MI**	**Suffix**	
Municipality Robinson Township		**County** Allegheny		
Contact Phone 412.249.3854	**Ext**	**Contact Email Address** john.smelko@cabotog.com		

s the waste generated at the Company Mailing Address (noted above)? ☐ Yes ☒ No

If 'No', describe location of waste generation and storage. generated at natural gas well locations in Susquehanna County, PA

Municipality Dimock, Springville **County** Susquehanna **State** PA

SECTION B. WASTE DESCRIPTION

Residual Waste Code	Residual Waste Code Description	Amount	Unit of Measure	Time Frame
801	Drilling Fluids, Residuals (other than those under 802-810: includes drill cuttings from monitoring well and drinking water well construction). Runoff water	1,154,515	☐ cu yd ☒ gal ☐ lb ☐ ton	☐ One Time

1. GENERAL PROPERTIES

a. **pH Range** 6.0 to 9.0 (based on analyses or knowledge)

b. **Physical State**
- ☒ Liquid Waste (EPA Method 9095)
- ☐ Solid (EPA Method 9095)
- ☐ Gas (ambient temperature & pressure)

c. **Physical Appearance** **Color** Clear to muddy **Odor** None to earthy smell
Number of Solid or Liquid Phases of Separation 1 phase
Describe each phase of separation. Clear to muddy with solids suspended throughout

2. CHEMICAL ANALYSIS ATTACHMENTS

a.	The results of a detailed chemical characterization of the waste, as described in the instructions, is attached.	☒ Yes	☐ No	
b.	A detailed description of the waste sampling method is attached.	☒ Yes	☐ No	
c.	The quality assurance/quality control procedures employed by the laboratory(ies) is attached.	☒ Yes	☐ No	
d.	The results of the hazardous waste determination is attached.	☒ Yes	☐ No	
e.	If applicable, a detailed explanation supporting use of generator knowledge in lieu of actual chemical analysis is attached.	☐ Yes	☐ No	☒ N/A

3. Process Description & Schematic Attachments

a.	A detailed description of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☒ Yes	☐ No
b.	A schematic of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☒ Yes	☐ No
c.	If portions of the information submitted are confidential, the substantiation for a confidentiality claim, as described in the instructions, is attached.	☐ Yes ☐ No	☒ N/A

SECTION C. MANAGEMENT OF RESIDUAL WASTE

1. Processing or Disposal Facility(ies)

The area below (a.-d.) will accommodate the identification of two facilities. Attach additional sheets if necessary.

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PA0026034

b.

Facility Name	Johnstown Regional Sewage POTW		
Address Line 1	241 Asphalt Road		
Address Line 1			
Address City State ZIP	Johnstown	PA	15906
Municipality	Johnstown	County	Cambria

c.

Facility Contact Name	Jeff Mulligan		
Title	Chief Plant Operator		
Phone	814.539.4877	Email Address	jeffmulligan@pennswoods.net

d. Volume of waste shipped to processing or disposal facility in the previous year.
143,220 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PAR900009

b.

Facility Name	PSC Environmental		
Address Line 1	2337 North Penn Road		
Address Line 1			
Address City State ZIP	Hatfield	PA	19440
Municipality	Hatfield	County	Montgomery

c.

Facility Contact Name	Mark Dublisky		
Title			
Phone	610.731.7200	Email Address	mdublisky@pscnow.com

d. Volume of waste shipped to processing or disposal facility in the previous year.
44,095 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

2. Beneficial Use

a. Has the waste been approved for beneficial use? ☐ Yes ☒ No
If "Yes", list the general permit number or approval number.

b. Volume of waste beneficially used in the previous year.
☐ cu yd ☐ gal ☐ lb ☐ ton (check one)

3. Process Description & Schematic Attachments

a.	A detailed description of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☐ Yes	☐ No	
b.	A schematic of the manufacturing and/or pollution control processes producing the waste, as specified in the instructions, is attached.	☐ Yes	☐ No	
c.	If portions of the information submitted are confidential, the substantiation for a confidentiality claim, as described in the instructions, is attached.	☐ Yes	☐ No	☐ N/A

SECTION C. MANAGEMENT OF RESIDUAL WASTE

1. Processing or Disposal Facility(ies)

The area below (a.-d.) will accommodate the identification of two facilities. Attach additional sheets if necessary.

a. Solid waste permit number(s) for processing or disposal facility being utilized.
JM0070

b.	Facility Name	Lorco Petroleum Services		
	Address Line 1	450 South Front Street		
	Address Line 1			
	Address City State ZIP	Elizabeth	NJ	07202
	Municipality	Elizabeth	County	Union
c.	Facility Contact Name	E. Lumetti		
	Title			
	Phone	800.734.0910	Email Address	eblumetti@lorcopetroleum.com

d. Volume of waste shipped to processing or disposal facility in the previous year.
6,000 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

a. Solid waste permit number(s) for processing or disposal facility being utilized.
PA0008451

b.	Facility Name	Sunbury Generation, LP		
	Address Line 1	P.O. Box 517		
	Address Line 1			
	Address City State ZIP	Shamokin Dam	PA	17876
	Municipality	Shamokin Dam Borough	County	Snyder
c.	Facility Contact Name	Norm Zellers		
	Title	Operations Manager		
	Phone	570.884.1200	Email Address	

d. Volume of waste shipped to processing or disposal facility in the previous year.
961,200 ☐ cu yd ☒ gal ☐ lb ☐ ton (check one)

2. Beneficial Use

a. Has the waste been approved for beneficial use? ☐ Yes ☐ No
If "Yes", list the general permit number or approval number.

b. Volume of waste beneficially used in the previous year.
☐ cu yd ☐ gal ☐ lb ☐ ton (check one)

SECTION D. CERTIFICATION

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this Annual Report and all attached documents and that based upon my inquiry of those individuals immediately responsible for obtaining the information, I verify that the submitted information is true, accurate and complete to the best of my knowledge. I understand that the submission of false information herein is made subject to the penalties of 18 Pa. C.S. §4904, relating to unsworn falsification to authorities, which include fine and imprisonment.

Check the following, if applicable:

☐ I certify the information required in Section B-A, General Properties was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

☐ I certify the information required in Section B-B, Chemical Analysis was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

☐ I certify the information required in Section B-C, Process Description and Schematic, was supplied to the Department for the year _____ and has not changed.

Form Submitted: ☐ Form 26R

☐ Other (specify) _____

Date Submitted: _____

Name of Responsible Official: John Smelko

Title: Manager, Environmental and Regulatory Compliance

Signature: John J Smelko

Date: 02/28/11

RWC801 – Runoff Water

PROCESS DESCRIPTION:

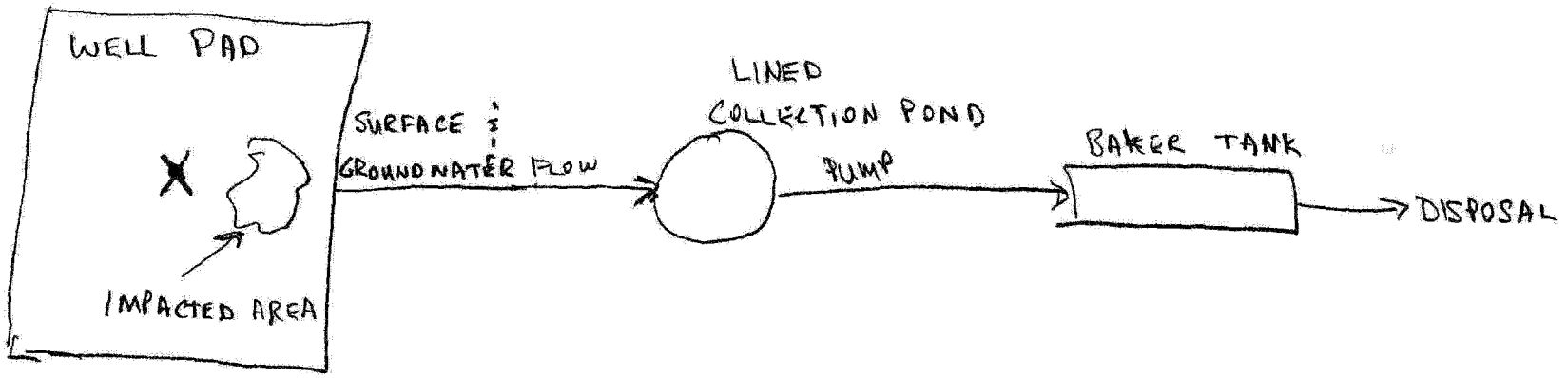
This waste stream is generated from the collection of groundwater and surface runoff water from a site that had a release of pit water. A trench was excavated downgradient of release to intercept both surface and groundwater. The contents of the trench are periodically pumped into Baker tanks and taken to a wastewater treatment facility.

SAMPLING METHOD:

Using a sterile dipper and nitrile gloves, a grab sample was collected and placed into the appropriate laboratory provided glassware. The samples were collected from a small retention pond used to collected site runoff water.

Samples were packed on ice and placed into coolers provided by URS. They were shipped priority overnight via FedEx to Pace Laboratories.

801 OFF WATER



Pace Analytical
www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

January 20, 2011

Mr. Jim Pinta
URS Corporation
Foster Plaza 4
501 Holiday Drive, Suite 300
Pittsburgh, PA 15220

RE: Project: Black 26R
Pace Project No.: 3040195

Dear Mr. Pinta:
Enclosed are the analytical results for sample(s) received by the laboratory between December 17, 2010 and January 20, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Timothy Reed

timothy.reed@pacelabs.com
Project Manager

Enclosures

Pace Analytical Services, Inc.
1638 Roseytown Road - Suites 2,3,4
Greensburg, PA 15601
(724)850-5600

CERTIFICATIONS

Project: Black 26R
Pace Project No.: 3040195

Pennsylvania Certification IDs
1638 Roseytown Road Suites 2,3&4, Greensburg, PA 15601
Alabama Certification #: 41590
Arizona Certification #: AZ0734
Arkansas Certification
California/NELAC Certification #: 04222CA
Colorado Certification
Connecticut Certification #: PH 0694
Delaware Certification
Florida/NELAC Certification #: E87683
Guam/PADEP Certification
Hawaii/PADEP Certification
Idaho Certification
Illinois/PADEP Certification
Indiana/PADEP Certification
Iowa Certification #: 391
Kansas/NELAC Certification #: E-10358
Kentucky Certification #: 90133
Louisiana/NELAC Certification #: LA080002
Louisiana/NELAC Certification #: 4086
Maine Certification #: PA0091
Maryland Certification #: 308
Massachusetts Certification #: M-PA1457
Michigan/PADEP Certification
Missouri Certification #: 235
Montana Certification #: Cert 0082
Nevada Certification
New Hampshire/NELAC Certification #: 2976
New Jersey/NELAC Certification #: PA 051
New Mexico Certification
New York/NELAC Certification #: 10888
North Carolina Certification #: 42706
Oregon/NELAC Certification #: PA200002
Pennsylvania/NELAC Certification #: 65-00282
Puerto Rico Certification #: PA01457
South Dakota Certification
Tennessee Certification #: TN2867
Texas/NELAC Certification #: T104704188-09 TX
Utah/NELAC Certification #: ANTE
Virgin Island/PADEP Certification
Virginia Certification #: 00112
Washington Certification #: C1941
West Virginia Certification #: 143
Wisconsin/PADEP Certification
Wyoming Certification #: 8TMS-Q

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SAMPLE ANALYTE COUNT

Project: [redacted]26R
Pace Project No.: 3040195

[redacted]

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
3038842003	[redacted]WC801 - Run off Water	EPA 8081	SJG	23	PASI-PA
		EPA 8082	SJG	9	PASI-PA
		SM 2340B	SAB	3	PASI-PA
		EPA 6010B	SAB	23	PASI-PA
		EPA 6010	CTS	1	PASI-PA
		EPA 7470	CTS	1	PASI-PA
		EPA 8270	SPL	75	PASI-PA
		EPA 8260	EAC	54	PASI-PA
		EPA 900.0m	AMK	2	PASI-PA
		EPA 903.1	RMD	1	PASI-PA
		EPA 904.0	DJL	1	PASI-PA
		ASTM D5174-97	JC2	1	PASI-PA
		HSL-300m	MBT	1	PASI-PA
		EPA 1010	JES	1	PASI-PA
		EPA 1664A	DLH	1	PASI-PA
		SM 2310B	JSS	1	PASI-PA
		SM 2320B	JSS	2	PASI-PA
		SM 2540C	AMS	1	PASI-PA
		SM 2540D	AMS	1	PASI-PA
		SM 4500-H+B	JSS	1	PASI-PA
		SM 5210B	JSS	1	PASI-PA
		SM 5540C	JES	1	PASI-PA
		EPA 9050	BKH	1	PASI-PA
		EPA 300.0	BKH	1	PASI-PA
		EPA 350.1	DJT	1	PASI-PA
		EPA 351.2	DJT	1	PASI-PA
		EPA 410.4	DLH	1	PASI-PA
		EPA 420.1	JSS	1	PASI-PA
		SM 4500-Cl-E	DJT	1	PASI-PA
		SM 4500-NO3-F	DJT	1	PASI-PA
		SW-846 7.3.3.2 Modified	JES	1	PASI-PA
		SW-846 7.3.4.2	JES	1	PASI-PA
		ASTM D516-90,02	BKH	1	PASI-PA

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ANALYTICAL RESULTS

Project: [redacted]26R
Pace Project No.: 3049195

Sample: [redacted] RWC801 - Run off Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8081 Organochlorine Pesticides	Analytical Method: EPA 8081 Preparation Method: EPA 3510							
Aldrin	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	309-00-2	
alpha-BHC	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	319-84-6	
beta-BHC	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	319-85-7	
delta-BHC	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	319-86-8	
gamma-BHC (Lindane)	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	58-89-9	
alpha-Chlordane	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	5103-71-9	
gamma-Chlordane	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	5103-74-2	
4,4'-DDD	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	72-54-8	
4,4'-DDE	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	72-55-9	
4,4'-DDT	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	50-29-3	
Dieldrin	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	60-57-1	
Endosulfan I	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	959-98-8	
Endosulfan II	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	33213-65-9	
Endosulfan sulfate	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	1031-07-8	
Endrin	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	72-20-8	
Endrin aldehyde	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	7421-93-4	
Endrin ketone	ND	ug/L	0.053	1	12/21/10 16:48	12/27/10 22:32	53494-70-5	
Heptachlor	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	76-44-8	
Heptachlor epoxide	ND	ug/L	0.027	1	12/21/10 16:48	12/27/10 22:32	1024-57-3	
Methoxychlor	ND	ug/L	0.27	1	12/21/10 16:48	12/27/10 22:32	72-43-5	
Toxaphene	ND	ug/L	0.53	1	12/21/10 16:48	12/27/10 22:32	8001-35-2	
Tetrachloro-m-xylene (S)	61	%	30-150	1	12/21/10 16:48	12/27/10 22:32	877-09-8	
Decachlorobiphenyl (S)	78	%	30-150	1	12/21/10 16:48	12/27/10 22:32	2051-24-3	
8082 GCS PCB	Analytical Method: EPA 8082 Preparation Method: EPA 3510							
PCB-1016 (Aroclor 1016)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	12674-11-2	
PCB-1221 (Aroclor 1221)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	11104-28-2	
PCB-1232 (Aroclor 1232)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	11141-16-5	
PCB-1242 (Aroclor 1242)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	53469-21-9	
PCB-1248 (Aroclor 1248)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	12672-29-6	
PCB-1254 (Aroclor 1254)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	11097-69-1	
PCB-1260 (Aroclor 1260)	ND	ug/L	0.27	1	12/21/10 16:49	12/23/10 19:25	11096-82-5	
Tetrachloro-m-xylene (S)	67	%	30-150	1	12/21/10 16:49	12/23/10 19:25	877-09-8	
Decachlorobiphenyl (S)	80	%	30-150	1	12/21/10 16:49	12/23/10 19:25	2051-24-3	
2340B Hardness, Total (Calc.)	Analytical Method: SM 2340B							
Calcium	16800	ug/L	500	1		12/21/10 17:27	7440-70-2	
Magnesium	3570	ug/L	200	1		12/21/10 17:27	7439-95-4	
Total Hardness	56.5	mg/L	2.1	1		12/21/10 17:27		
6010 MET ICP	Analytical Method: EPA 6010B Preparation Method: EPA 3005							
Aluminum	76.8	ug/L	50.0	1	12/20/10 14:19	12/21/10 17:27	7429-90-5	
Arsenic	ND	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7440-38-2	
Barium	193	ug/L	10.0	1	12/20/10 14:19	12/21/10 17:27	7440-39-3	
Beryllium	ND	ug/L	1.0	1	12/20/10 14:19	12/21/10 17:27	7440-41-7	

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ANALYTICAL RESULTS

Project: [redacted]6R
Pace Project No.: 3040195

Sample: [redacted] WC801 - Run off Lab ID: 3038842603 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: [redacted] Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010B Preparation Method: EPA 3005							
Boron	ND	ug/L	50.0	1	12/20/10 14:19	12/21/10 17:27	7440-42-8	
Cadmium	ND	ug/L	1.0	1	12/20/10 14:19	12/21/10 17:27	7440-43-9	
Calcium	16800	ug/L	1000	1	12/20/10 14:19	12/21/10 17:27	7440-70-2	
Chromium	ND	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7440-47-3	
Cobalt	ND	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7440-48-4	
Copper	ND	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7440-50-8	
Iron	73.2	ug/L	50.0	1	12/20/10 14:19	12/21/10 17:27	7439-89-6	
Lead	ND	ug/L	2.0	1	12/20/10 14:19	12/21/10 17:27	7439-92-1	
Lithium	ND	ug/L	50.0	1	12/20/10 14:19	12/21/10 17:27	7439-93-2	
Magnesium	3570	ug/L	200	1	12/20/10 14:19	12/21/10 17:27	7439-95-4	
Manganese	82.5	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7439-96-5	
Molybdenum	ND	ug/L	20.0	1	12/20/10 14:19	12/21/10 17:27	7439-98-7	
Nickel	ND	ug/L	10.0	1	12/20/10 14:19	12/21/10 17:27	7440-02-0	
Selenium	ND	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7782-49-2	
Silver	ND	ug/L	1.0	1	12/20/10 14:19	12/21/10 17:27	7440-22-4	
Sodium	49700	ug/L	1000	1	12/20/10 14:19	12/21/10 17:27	7440-23-5	
Strontium	63.2	ug/L	5.0	1	12/20/10 14:19	12/21/10 17:27	7440-24-6	
Thallium	ND	ug/L	10.0	1	12/20/10 14:19	12/21/10 17:27	7440-28-0	
Zinc	ND	ug/L	10.0	1	12/20/10 14:19	12/21/10 17:27	7440-66-6	
6010 MET ICP, Lab Filtered	Analytical Method: EPA 6010 Preparation Method: EPA 3005							
Iron, Dissolved	ND	ug/L	70.0	1	12/27/10 16:51	12/28/10 18:25	7439-89-6	
7470 Mercury	Analytical Method: EPA 7470 Preparation Method: EPA 7470							
Mercury	ND	ug/L	0.20	1	12/20/10 14:30	12/21/10 11:41	7439-97-6	
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	120-82-1	
1,2-Dichlorobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	106-46-7	
1-Methylnaphthalene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	90-12-0	
2,4,5-Trichlorophenol	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	95-95-4	
2,4,6-Trichlorophenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	88-06-2	
2,4-Dichlorophenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	120-83-2	
2,4-Dimethylphenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	105-67-9	
2,4-Dinitrophenol	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	51-28-5	
2,4-Dinitrotoluene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	121-14-2	
2,6-Dinitrotoluene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	606-20-2	
2-Chloronaphthalene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	91-58-7	
2-Chlorophenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	95-57-8	
2-Methylnaphthalene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	91-57-6	
2-Methylphenol(o-Cresol)	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	95-48-7	
2-Nitroaniline	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	88-74-4	
2-Nitrophenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	88-75-5	

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ANALYTICAL RESULTS

Project: [redacted]SR
Pace Project No.: 3040195

Sample: [redacted]WC801 - Run off Water Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: Water [redacted]

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
3&4-Methylphenol(m&p Cresol)	ND	ug/L	2.0	1	12/22/10 13:14	12/22/10 20:47		
3,3'-Dichlorobenzidine	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	91-94-1	
3-Nitroaniline	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	99-09-2	
4,6-Dinitro-2-methylphenol	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	534-52-1	
4-Bromophenylphenyl ether	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	101-55-3	
4-Chloro-3-methylphenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	59-50-7	
4-Chloroaniline	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	106-47-8	
4-Chlorophenylphenyl ether	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	7005-72-3	
4-Nitroaniline	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	100-01-6	
4-Nitrophenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	100-02-7	
Acenaphthene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	83-32-9	
Acenaphthylene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	208-96-8	
Anthracene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	120-12-7	
Azobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	103-33-3	
Benzo(a)anthracene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	56-55-3	
Benzo(a)pyrene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	50-32-8	
Benzo(b)fluoranthene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	205-99-2	
Benzo(g,h,i)perylene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	191-24-2	
Benzo(k)fluoranthene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	207-08-9	
Benzoic acid	ND	ug/L	102	1	12/22/10 13:14	12/22/10 20:47	65-85-0	
Benzyl alcohol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	100-51-6	
Butylbenzylphthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	85-68-7	
Carbazole	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	86-74-8	
Chrysene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	218-01-9	
Di-n-butylphthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	84-74-2	
Di-n-octylphthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	117-84-0	
Dibenz(a,h)anthracene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	53-70-3	
Dibenzofuran	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	132-64-9	
Diethylphthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	84-66-2	
Dimethylphthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	131-11-3	
Fluoranthene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	206-44-0	
Fluorene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	86-73-7	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	87-68-3	
Hexachlorobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	118-74-1	
Hexachlorocyclopentadiene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	77-47-4	
Hexachloroethane	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	67-72-1	
Indeno(1,2,3-cd)pyrene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	193-39-5	
Isophorone	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	78-59-1	
N-Nitroso-di-n-propylamine	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	621-64-7	
N-Nitrosodimethylamine	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	62-75-9	
N-Nitrosodiphenylamine	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	86-30-6	
Naphthalene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	91-20-3	
Nitrobenzene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	98-95-3	
Pentachlorophenol	ND	ug/L	2.5	1	12/22/10 13:14	12/22/10 20:47	87-86-5	
Phenanthrene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	85-01-8	
Phenol	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	108-95-2	

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ANALYTICAL RESULTS

Project: [redacted]SR
Pace Project No.: 3040195

Sample: [redacted]WC801 - Run off Water Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: [redacted]

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8270 MSSV Semivolatile Organic	Analytical Method: EPA 8270 Preparation Method: EPA 3510							
Pyrene	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	129-00-0	
bis(2-Chloroethoxy)methane	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	111-91-1	
bis(2-Chloroethyl) ether	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	111-44-4	
bis(2-Chloroisopropyl) ether	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	108-60-1	
bis(2-Ethylhexyl)phthalate	ND	ug/L	1.0	1	12/22/10 13:14	12/22/10 20:47	117-81-7	
Nitrobenzene-d5 (S)	38	%	35-114	1	12/22/10 13:14	12/22/10 20:47	4165-60-0	
2-Fluorobiphenyl (S)	39	%	48-116	1	12/22/10 13:14	12/22/10 20:47	321-60-8	S1
Terphenyl-d14 (S)	64	%	33-141	1	12/22/10 13:14	12/22/10 20:47	1718-51-0	
Phenol-d6 (S)	15	%	10-110	1	12/22/10 13:14	12/22/10 20:47	13127-88-3	
2-Fluorophenol (S)	21	%	21-110	1	12/22/10 13:14	12/22/10 20:47	367-12-4	
2,4,6-Tribromophenol (S)	50	%	10-123	1	12/22/10 13:14	12/22/10 20:47	118-79-6	
8260 MSV	Analytical Method: EPA 8260							
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/28/10 20:54	71-55-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/28/10 20:54	79-34-5	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/28/10 20:54	79-00-5	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/28/10 20:54	75-34-3	
1,1-Dichloroethene	ND	ug/L	1.0	1		12/28/10 20:54	75-35-4	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		12/28/10 20:54	120-82-1	
1,2,4-Trimethylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	95-63-6	
1,2-Dichlorobenzene	ND	ug/L	1.0	1		12/28/10 20:54	95-50-1	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/28/10 20:54	107-06-2	
1,2-Dichloroethene (Total)	ND	ug/L	2.0	1		12/28/10 20:54	540-59-0	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/28/10 20:54	78-87-5	
1,3,5-Trimethylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	108-67-8	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/28/10 20:54	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	1		12/28/10 20:54	106-46-7	
2-Butanone (MEK)	ND	ug/L	10.0	1		12/28/10 20:54	78-93-3	
2-Hexanone	ND	ug/L	10.0	1		12/28/10 20:54	591-78-6	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	10.0	1		12/28/10 20:54	108-10-1	
Acetone	ND	ug/L	10.0	1		12/28/10 20:54	67-64-1	
Benzene	ND	ug/L	1.0	1		12/28/10 20:54	71-43-2	
Bromochloromethane	ND	ug/L	1.0	1		12/28/10 20:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		12/28/10 20:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/28/10 20:54	75-25-2	
Bromomethane	ND	ug/L	1.0	1		12/28/10 20:54	74-83-9	
Carbon disulfide	ND	ug/L	1.0	1		12/28/10 20:54	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	1		12/28/10 20:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/28/10 20:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/28/10 20:54	75-00-3	
Chloroform	ND	ug/L	1.0	1		12/28/10 20:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/28/10 20:54	74-87-3	
Dibromochloromethane	ND	ug/L	1.0	1		12/28/10 20:54	124-48-1	
Ethylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	100-41-4	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/28/10 20:54	98-82-8	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		12/28/10 20:54	1634-04-4	

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ANALYTICAL RESULTS

Project: [redacted] 26R
Pace Project No.: 3048195

Sample: [redacted] RWC801 - Run off Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: [redacted]

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260							
Methylene Chloride	ND	ug/L	1.0	1		12/28/10 20:54	75-09-2	
Naphthalene	ND	ug/L	2.0	1		12/28/10 20:54	91-20-3	
Styrene	ND	ug/L	1.0	1		12/28/10 20:54	100-42-5	
Tetrachloroethene	ND	ug/L	1.0	1		12/28/10 20:54	127-18-4	
Toluene	ND	ug/L	1.0	1		12/28/10 20:54	108-88-3	
Trichloroethene	ND	ug/L	1.0	1		12/28/10 20:54	79-01-6	
Vinyl chloride	ND	ug/L	1.0	1		12/28/10 20:54	75-01-4	
Xylene (Total)	ND	ug/L	3.0	1		12/28/10 20:54	1330-20-7	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/28/10 20:54	156-59-2	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/28/10 20:54	10061-01-5	
m&p-Xylene	ND	ug/L	2.0	1		12/28/10 20:54	179601-23-1	
n-Butylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	104-51-8	
n-Propylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	103-65-1	
o-Xylene	ND	ug/L	1.0	1		12/28/10 20:54	95-47-6	
p-Isopropyltoluene	ND	ug/L	1.0	1		12/28/10 20:54	99-87-6	
sec-Butylbenzene	ND	ug/L	1.0	1		12/28/10 20:54	135-98-8	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/28/10 20:54	156-60-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/28/10 20:54	10061-02-6	
4-Bromofluorobenzene (S)	107	%	70-130	1		12/28/10 20:54	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130	1		12/28/10 20:54	17060-07-0	
Toluene-d8 (S)	107	%	70-130	1		12/28/10 20:54	2037-26-5	
1010 Flashpoint, Closed Cup	Analytical Method: EPA 1010							
Flashpoint	>200	deg F	60.0	1		12/20/10 21:31		
HEM, Oil and Grease	Analytical Method: EPA 1664A							
Oil and Grease	ND	mg/L	4.8	1		01/04/11 08:30		
2310B Acidity, Total	Analytical Method: SM 2310B							
Acidity, Total	ND	mg/L	10.0	1		12/23/10 15:00		
2320B Alkalinity	Analytical Method: SM 2320B							
Alkalinity,Bicarbonate (CaCO3)	ND	mg/L	10.0	1		12/21/10 15:00		
Alkalinity, Total as CaCO3	ND	mg/L	10.0	1		12/21/10 15:00		
2540C Total Dissolved Solids	Analytical Method: SM 2540C							
Total Dissolved Solids	320	mg/L	10.0	1		12/21/10 18:51		
2540D Total Suspended Solids	Analytical Method: SM 2540D							
Total Suspended Solids	6.0	mg/L	4.0	1		12/20/10 15:11		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B							
pH at 25 Degrees C	6.1	Std. Units	1.0	1		12/17/10 21:40		H6

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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ANALYTICAL RESULTS

Project: [redacted]26R
Pace Project No.: 3040195

Sample: [redacted]WC801 - Run off Water Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 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	ND	mg/L	2.0	1	12/17/10 14:00	12/22/10 15:45		
5540C MBAS Surfactants	Analytical Method: SM 5540C							
Surfactants	ND	mg/L	0.10	1		12/17/10 19:14		
9050 Specific Conductance	Analytical Method: EPA 9050							
Specific Conductance	428	umhos/cm	1.0	1		01/12/11 00:00		
300.0 IC Anions 28 Days	Analytical Method: EPA 300.0							
Bromide	0.24	mg/L	0.062	1		12/23/10 00:00	24959-67-9	
350.1 Ammonia, Distilled	Analytical Method: EPA 350.1							
Ammonia, Distilled	0.12	mg/L	0.10	1		01/03/11 14:14		
351.2 Total Kjeldahl Nitrogen	Analytical Method: EPA 351.2							
Nitrogen, Kjeldahl, Total	ND	mg/L	1.0	1		01/11/11 14:00	7727-37-9	
410.4 COD	Analytical Method: EPA 410.4							
Chemical Oxygen Demand	ND	mg/L	25.0	1		01/07/11 10:10		
Phenolics, Total Recoverable	Analytical Method: EPA 420.1							
Phenol	ND	mg/L	0.050	1		12/22/10 23:07	108-95-2	
4500 Chloride	Analytical Method: SM 4500-Cl E							
Chloride	104	mg/L	5.0	2		12/22/10 12:10	16887-00-6	
SM4500NO3-F, NO3-NO2	Analytical Method: SM 4500-NO3 F							
Nitrogen, NO2 plus NO3	0.32	mg/L	0.10	1		12/27/10 14:58		
733C Reactive Cyanide	Analytical Method: SW-846 7.3.3.2 Modified							
Cyanide, Reactive	ND	mg/L	0.0050	1		12/20/10 20:45		
734S Reactive Sulfide	Analytical Method: SW-846 7.3.4.2							
Sulfide, Reactive	ND	mg/L	1.0	1		12/20/10 21:41		
ASTM D516-9002 Sulfate Water	Analytical Method: ASTM D516-90,02							
Sulfate	14.3	mg/L	10.0	1		01/11/11 13:58	14808-79-8	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

QC Batch: OEXT/6803
QC Batch Method: EPA 3510
Analysis Method: EPA 8081
Analysis Description: 8081A GCS Pesticides
Associated Lab Samples: 3038842003

METHOD BLANK: 251016
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
4,4'-DDD	ug/L	ND	0.050	12/27/10 21:02	
4,4'-DDE	ug/L	ND	0.050	12/27/10 21:02	
4,4'-DDT	ug/L	ND	0.050	12/27/10 21:02	
Aldrin	ug/L	ND	0.025	12/27/10 21:02	
alpha-BHC	ug/L	ND	0.025	12/27/10 21:02	
alpha-Chlordane	ug/L	ND	0.025	12/27/10 21:02	
beta-BHC	ug/L	ND	0.025	12/27/10 21:02	
delta-BHC	ug/L	ND	0.025	12/27/10 21:02	
Dieldrin	ug/L	ND	0.050	12/27/10 21:02	
Endosulfan I	ug/L	ND	0.025	12/27/10 21:02	
Endosulfan II	ug/L	ND	0.050	12/27/10 21:02	
Endosulfan sulfate	ug/L	ND	0.050	12/27/10 21:02	
Endrin	ug/L	ND	0.050	12/27/10 21:02	
Endrin aldehyde	ug/L	ND	0.050	12/27/10 21:02	
Endrin ketone	ug/L	ND	0.050	12/27/10 21:02	
gamma-BHC (Lindane)	ug/L	ND	0.025	12/27/10 21:02	
gamma-Chlordane	ug/L	ND	0.025	12/27/10 21:02	
Heptachlor	ug/L	ND	0.025	12/27/10 21:02	
Heptachlor epoxide	ug/L	ND	0.025	12/27/10 21:02	
Methoxychlor	ug/L	ND	0.25	12/27/10 21:02	
Toxaphene	ug/L	ND	0.50	12/27/10 21:02	
Decachlorobiphenyl (S)	%	71	30-150	12/27/10 21:02	
Tetrachloro-m-xylene (S)	%	43	30-150	12/27/10 21:02	

LABORATORY CONTROL SAMPLE: 251017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
4,4'-DDD	ug/L	.4	0.36	90	50-152	
4,4'-DDE	ug/L	.4	0.33	82	54-133	
4,4'-DDT	ug/L	.4	0.27	66	55-156	
Aldrin	ug/L	.4	0.26	64	68-112	L2
alpha-BHC	ug/L	.4	0.26	64	66-118	L2
alpha-Chlordane	ug/L	.4	0.30	76	50-160	
beta-BHC	ug/L	.4	0.31	77	58-107	
delta-BHC	ug/L	.4	0.35	88	48-120	
Dieldrin	ug/L	.4	0.33	82	71-134	
Endosulfan I	ug/L	.4	0.29	73	63-121	
Endosulfan II	ug/L	.4	0.35	86	64-131	
Endosulfan sulfate	ug/L	.4	0.37	93	57-131	
Endrin	ug/L	.4	0.34	84	57-112	
Endrin aldehyde	ug/L	.4	0.41	102	46-191	

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QUALITY CONTROL DATA

Project: [redacted]GR [redacted]
Pace Project No.: 3040195

LABORATORY CONTROL SAMPLE: 251017

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Endrin ketone	ug/L	.4	0.38	96	50-150	
gamma-BHC (Lindane)	ug/L	.4	0.28	71	66-118	
gamma-Chlordane	ug/L	.4	0.30	76	50-150	
Heptachlor	ug/L	.4	0.25	62	64-105	L2
Heptachlor epoxide	ug/L	.4	0.30	74	66-114	
Methoxychlor	ug/L	.4	0.39	97	50-150	
Decachlorobiphenyl (S)	%			38	30-150	
Tetrachloro-m-xylene (S)	%			53	30-150	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: OEXT/6804
QC Batch Method: EPA 3510
Analysis Method: EPA 8082
Analysis Description: 8082 GCS PCB
Associated Lab Samples: 3038842003

METHOD BLANK: 251022
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1221 (Aroclor 1221)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1232 (Aroclor 1232)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1242 (Aroclor 1242)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1248 (Aroclor 1248)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1254 (Aroclor 1254)	ug/L	ND	0.25	12/23/10 18:53	
PCB-1260 (Aroclor 1260)	ug/L	ND	0.25	12/23/10 18:53	
Decachlorobiphenyl (S)	%	72	30-150	12/23/10 18:53	
Tetrachloro-m-xylene (S)	%	60	30-150	12/23/10 18:53	

LABORATORY CONTROL SAMPLE: 251023

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
PCB-1016 (Aroclor 1016)	ug/L	2.5	1.6	64	55-145	
PCB-1221 (Aroclor 1221)	ug/L		ND			
PCB-1232 (Aroclor 1232)	ug/L		ND			
PCB-1242 (Aroclor 1242)	ug/L		ND			
PCB-1248 (Aroclor 1248)	ug/L		ND			
PCB-1254 (Aroclor 1254)	ug/L		ND			
PCB-1260 (Aroclor 1260)	ug/L	2.5	2.0	81	55-145	
Decachlorobiphenyl (S)	%			41	30-150	
Tetrachloro-m-xylene (S)	%			58	30-150	

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

[redacted]

QC Batch: MPRP/5167
QC Batch Method: EPA 3005
Associated Lab Samples: 3038842003

Analysis Method: EPA 6010B
Analysis Description: 6010 MET

METHOD BLANK: 250798
Associated Lab Samples: 3038842003

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum	ug/L	ND	50.0	12/21/10 14:55	
Arsenic	ug/L	ND	5.0	12/21/10 14:55	
Barium	ug/L	ND	10.0	12/21/10 14:55	
Beryllium	ug/L	ND	1.0	12/21/10 14:55	
Boron	ug/L	ND	50.0	12/21/10 14:55	
Cadmium	ug/L	ND	1.0	12/21/10 14:55	
Calcium	ug/L	ND	1000	12/21/10 14:55	
Chromium	ug/L	ND	5.0	12/21/10 14:55	
Cobalt	ug/L	ND	5.0	12/21/10 14:55	
Copper	ug/L	ND	5.0	12/21/10 14:55	
Iron	ug/L	ND	50.0	12/21/10 14:55	
Lead	ug/L	ND	2.0	12/21/10 14:55	
Lithium	ug/L	ND	50.0	12/21/10 14:55	
Magnesium	ug/L	ND	200	12/21/10 14:55	
Manganese	ug/L	ND	5.0	12/21/10 14:55	
Molybdenum	ug/L	ND	20.0	12/21/10 14:55	
Nickel	ug/L	ND	10.0	12/21/10 14:55	
Selenium	ug/L	ND	5.0	12/21/10 14:55	
Silver	ug/L	ND	1.0	12/21/10 14:55	
Sodium	ug/L	ND	1000	12/21/10 14:55	
Strontium	ug/L	ND	5.0	12/21/10 14:55	
Thallium	ug/L	ND	10.0	12/21/10 14:55	
Zinc	ug/L	ND	10.0	12/21/10 14:55	

LABORATORY CONTROL SAMPLE: 250799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	5000	4840	97	80-120	
Arsenic	ug/L	500	489	98	80-120	
Barium	ug/L	500	494	99	80-120	
Beryllium	ug/L	500	495	99	80-120	
Boron	ug/L	500	493	99	80-120	
Cadmium	ug/L	500	509	102	80-120	
Calcium	ug/L	5000	5040	101	80-120	
Chromium	ug/L	500	518	104	80-120	
Cobalt	ug/L	500	494	99	80-120	
Copper	ug/L	500	502	100	80-120	
Iron	ug/L	5000	5030	101	80-120	
Lead	ug/L	500	501	100	80-120	
Lithium	ug/L	500	491	98	80-120	
Magnesium	ug/L	5000	5050	101	80-120	

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

LABORATORY CONTROL SAMPLE: 250799

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Manganese	ug/L	500	484	97	80-120	
Molybdenum	ug/L	500	493	99	80-120	
Nickel	ug/L	500	517	103	80-120	
Selenium	ug/L	500	489	98	80-120	
Silver	ug/L	250	260	104	80-120	
Sodium	ug/L	5000	4890	98	80-120	
Strontium	ug/L	500	508	102	80-120	
Thallium	ug/L	500	509	102	80-120	
Zinc	ug/L	500	516	103	80-120	

MATRIX SPIKE SAMPLE: 250801

Parameter	Units	3038899005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	4150	5000	10100	119	75-125	
Arsenic	ug/L	ND	500	470	93	75-125	
Barium	ug/L	105	500	609	101	75-125	
Beryllium	ug/L	ND	500	501	100	75-125	
Boron	ug/L	ND	500	521	102	75-125	
Cadmium	ug/L	ND	500	507	101	75-125	
Calcium	ug/L	22600	5000	27900	100	75-125	
Chromium	ug/L	5.9	500	508	100	75-125	
Cobalt	ug/L	ND	500	498	99	75-125	
Copper	ug/L	6.9	500	511	101	75-125	
Iron	ug/L	5450	5000	10500	100	75-125	
Lead	ug/L	4.3	500	513	102	75-125	
Lithium	ug/L	ND	500	531	105	75-125	
Magnesium	ug/L	6840	5000	11800	98	75-125	
Manganese	ug/L	58.0	500	541	97	75-125	
Molybdenum	ug/L	ND	500	508	101	75-125	
Nickel	ug/L	ND	500	508	101	75-125	
Selenium	ug/L	ND	500	530	106	75-125	
Silver	ug/L	ND	250	253	101	75-125	
Sodium	ug/L	3910	5000	9790	118	75-125	
Strontium	ug/L	127	500	640	103	75-125	
Thallium	ug/L	ND	500	526	105	75-125	
Zinc	ug/L	25.4	500	540	103	75-125	

MATRIX SPIKE SAMPLE: 250803

Parameter	Units	3038895001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Aluminum	ug/L	ND	5000	5180	103	75-125	
Arsenic	ug/L	5.5	500	511	101	75-125	
Barium	ug/L	340	500	685	105	75-125	
Beryllium	ug/L	ND	500	508	102	75-125	
Boron	ug/L	ND	500	518	97	75-125	

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

MATRIX SPIKE SAMPLE: 250803

Parameter	Units	3038895001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Cadmium	ug/L	ND	500	517	103	75-125	
Calcium	ug/L	230000	5000	244000	272	75-125	M0
Chromium	ug/L	ND	500	520	104	75-125	
Cobalt	ug/L	ND	500	513	102	75-125	
Copper	ug/L	ND	500	518	103	75-125	
Iron	ug/L	ND	5000	5030	101	75-125	
Lead	ug/L	ND	500	521	104	75-125	
Lithium	ug/L	ND	500	544	106	75-125	
Magnesium	ug/L	81100	5000	89400	166	75-125	M0
Manganese	ug/L	139	500	633	99	75-125	
Molybdenum	ug/L	ND	500	537	107	75-125	
Nickel	ug/L	ND	500	481	96	75-125	
Selenium	ug/L	ND	500	499	100	75-125	
Silver	ug/L	ND	250	272	109	75-125	
Sodium	ug/L	121000	5000	132000	210	75-125	M0
Strontium	ug/L	1370	500	1920	110	75-125	
Thallium	ug/L	ND	500	500	99	75-125	
Zinc	ug/L	ND	500	486	97	75-125	

SAMPLE DUPLICATE: 250800

Parameter	Units	3038896005 Result	Dup Result	RPD	Qualifiers
Aluminum	ug/L	4150	4100	1	
Arsenic	ug/L	ND	5.3		
Barium	ug/L	105	106	.5	
Beryllium	ug/L	ND	.25J		
Boron	ug/L	ND	13.3J		
Cadmium	ug/L	ND	ND		
Calcium	ug/L	22600	22800	.2	
Chromium	ug/L	5.9	6.2	4	
Cobalt	ug/L	ND	1.4J		
Copper	ug/L	6.9	7.6	9	
Iron	ug/L	5450	5430	.3	
Lead	ug/L	4.3	4.8	9	
Lithium	ug/L	ND	9.3J		
Magnesium	ug/L	6840	6770	1	
Manganese	ug/L	58.0	58.5	.9	
Molybdenum	ug/L	ND	1.1J		
Nickel	ug/L	ND	3.7J		
Selenium	ug/L	ND	ND		
Silver	ug/L	ND	ND		
Sodium	ug/L	3910	3810	3	
Strontium	ug/L	127	128	.3	
Thallium	ug/L	ND	2.9J		
Zinc	ug/L	25.4	24.3	5	

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QUALITY CONTROL DATA

Project [redacted]25R
Pace Project No.: 3040195

[redacted]

SAMPLE DUPLICATE: 250802

Parameter	Units	3038895001 Result	Dup Result	RPD	Qualifiers
Aluminum	ug/L	ND	43.3J		
Arsenic	ug/L	5.5	1.4J		
Barium	ug/L	340	352	4	
Beryllium	ug/L	ND	.08J		
Boron	ug/L	ND	35.5J		
Cadmium	ug/L	ND	.28J		
Calcium	ug/L	230000	238000	3	
Chromium	ug/L	ND	1.4J		
Cobalt	ug/L	ND	.63J		
Copper	ug/L	ND	ND		
Iron	ug/L	ND	ND		
Lead	ug/L	ND	1.5J		
Lithium	ug/L	ND	14.4J		
Magnesium	ug/L	81100	83700	3	
Manganese	ug/L	139	143	3	
Molybdenum	ug/L	ND	2.7J		
Nickel	ug/L	ND	.53J		
Selenium	ug/L	ND	1.4J		
Silver	ug/L	ND	ND		
Sodium	ug/L	121000	126000	3	
Strontium	ug/L	1370	1420	4	
Thallium	ug/L	ND	2.7J		
Zinc	ug/L	ND	1.7J		

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: MPRP/5203
QC Batch Method: EPA 3005
Analysis Method: EPA 6010
Analysis Description: 6010 MET Dissolved
Associated Lab Samples: 3038842003

METHOD BLANK: 253147 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Iron, Dissolved	ug/L	ND	70.0	12/28/10 16:49	

LABORATORY CONTROL SAMPLE: 253148

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	5000	5060	101	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 253150 253151

Parameter	Units	3039161001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Iron, Dissolved	ug/L	ND	5000	5000	4790	4850	95	96	75-125	1	

MATRIX SPIKE SAMPLE: 253153

Parameter	Units	3039175004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Iron, Dissolved	ug/L	ND	5000	4750	95	75-125	

SAMPLE DUPLICATE: 253149

Parameter	Units	3039161001 Result	Dup Result	RPD	Qualifiers
Iron, Dissolved	ug/L	ND	30J		

SAMPLE DUPLICATE: 253152

Parameter	Units	3039175004 Result	Dup Result	RPD	Qualifiers
Iron, Dissolved	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040196

QC Batch: MERP/2481
QC Batch Method: EPA 7470
Associated Lab Samples: 3038842003

Analysis Method: EPA 7470
Analysis Description: 7470 Mercury

METHOD BLANK: 250980 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury	ug/L	ND	0.20	12/21/10 11:12	

LABORATORY CONTROL SAMPLE: 250981

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	1	1.1	109	85-115	

MATRIX SPIKE SAMPLE: 250983

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Mercury	ug/L	ND	2.5	2.6	104	85-115	

SAMPLE DUPLICATE: 250982

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Mercury	ug/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

QC Batch: OEXT/6813
QC Batch Method: EPA 3510
Analysis Method: EPA 8270
Analysis Description: 8270 Water MSSV
Associated Lab Samples: 3038842003

METHOD BLANK: 251539
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/22/10 20:26	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/22/10 20:26	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/22/10 20:26	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/22/10 20:26	
1-Methylnaphthalene	ug/L	ND	1.0	12/22/10 20:26	
2,4,5-Trichlorophenol	ug/L	ND	2.5	12/22/10 20:26	
2,4,6-Trichlorophenol	ug/L	ND	1.0	12/22/10 20:26	
2,4-Dichlorophenol	ug/L	ND	1.0	12/22/10 20:26	
2,4-Dimethylphenol	ug/L	ND	1.0	12/22/10 20:26	
2,4-Dinitrophenol	ug/L	ND	2.5	12/22/10 20:26	
2,4-Dinitrotoluene	ug/L	ND	1.0	12/22/10 20:26	
2,6-Dinitrotoluene	ug/L	ND	1.0	12/22/10 20:26	
2-Chloronaphthalene	ug/L	ND	1.0	12/22/10 20:26	
2-Chlorophenol	ug/L	ND	1.0	12/22/10 20:26	
2-Methylnaphthalene	ug/L	ND	1.0	12/22/10 20:26	
2-Methylphenol(o-Cresol)	ug/L	ND	1.0	12/22/10 20:26	
2-Nitroaniline	ug/L	ND	2.5	12/22/10 20:26	
2-Nitrophenol	ug/L	ND	1.0	12/22/10 20:26	
3&4-Methylphenol(m&p Cresol)	ug/L	ND	2.0	12/22/10 20:26	
3,3'-Dichlorobenzidine	ug/L	ND	1.0	12/22/10 20:26	
3-Nitroaniline	ug/L	ND	2.5	12/22/10 20:26	
4,6-Dinitro-2-methylphenol	ug/L	ND	2.5	12/22/10 20:26	
4-Bromophenylphenyl ether	ug/L	ND	1.0	12/22/10 20:26	
4-Chloro-3-methylphenol	ug/L	ND	1.0	12/22/10 20:26	
4-Chloroaniline	ug/L	ND	1.0	12/22/10 20:26	
4-Chlorophenylphenyl ether	ug/L	ND	1.0	12/22/10 20:26	
4-Nitroaniline	ug/L	ND	2.5	12/22/10 20:26	
4-Nitrophenol	ug/L	ND	1.0	12/22/10 20:26	
Acenaphthene	ug/L	ND	1.0	12/22/10 20:26	
Acenaphthylene	ug/L	ND	1.0	12/22/10 20:26	
Anthracene	ug/L	ND	1.0	12/22/10 20:26	
Azobenzene	ug/L	ND	1.0	12/22/10 20:26	
Benzo(a)anthracene	ug/L	ND	1.0	12/22/10 20:26	
Benzo(a)pyrene	ug/L	ND	1.0	12/22/10 20:26	
Benzo(b)fluoranthene	ug/L	ND	1.0	12/22/10 20:26	
Benzo(g,h,i)perylene	ug/L	ND	1.0	12/22/10 20:26	
Benzo(k)fluoranthene	ug/L	ND	1.0	12/22/10 20:26	
Benzoic acid	ug/L	ND	100	12/22/10 20:26	
Benzyl alcohol	ug/L	ND	1.0	12/22/10 20:26	
bis(2-Chloroethoxy)methane	ug/L	ND	1.0	12/22/10 20:26	
bis(2-Chloroethyl) ether	ug/L	ND	1.0	12/22/10 20:26	
bis(2-Chloroisopropyl) ether	ug/L	ND	1.0	12/22/10 20:26	
bis(2-Ethylhexyl)phthalate	ug/L	ND	1.0	12/22/10 20:26	

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

[redacted]

METHOD BLANK: 251539 Matrix: Water

Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Butylbenzylphthalate	ug/L	ND	1.0	12/22/10 20:26	
Carbazole	ug/L	ND	1.0	12/22/10 20:26	
Chrysene	ug/L	ND	1.0	12/22/10 20:26	
Di-n-butylphthalate	ug/L	ND	1.0	12/22/10 20:26	
Di-n-octylphthalate	ug/L	ND	1.0	12/22/10 20:26	
Dibenz(a,h)anthracene	ug/L	ND	1.0	12/22/10 20:26	
Dibenzofuran	ug/L	ND	1.0	12/22/10 20:26	
Diethylphthalate	ug/L	ND	1.0	12/22/10 20:26	
Dimethylphthalate	ug/L	ND	1.0	12/22/10 20:26	
Fluoranthene	ug/L	ND	1.0	12/22/10 20:26	
Fluorene	ug/L	ND	1.0	12/22/10 20:26	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	12/22/10 20:26	
Hexachlorobenzene	ug/L	ND	1.0	12/22/10 20:26	
Hexachlorocyclopentadiene	ug/L	ND	1.0	12/22/10 20:26	
Hexachloroethane	ug/L	ND	1.0	12/22/10 20:26	
Indeno(1,2,3-cd)pyrene	ug/L	ND	1.0	12/22/10 20:26	
Isophorone	ug/L	ND	1.0	12/22/10 20:26	
N-Nitroso-di-n-propylamine	ug/L	ND	1.0	12/22/10 20:26	
N-Nitrosodimethylamine	ug/L	ND	1.0	12/22/10 20:26	
N-Nitrosodiphenylamine	ug/L	ND	1.0	12/22/10 20:26	
Naphthalene	ug/L	ND	1.0	12/22/10 20:26	
Nitrobenzene	ug/L	ND	1.0	12/22/10 20:26	
Pentachlorophenol	ug/L	ND	2.5	12/22/10 20:26	
Phenanthrene	ug/L	ND	1.0	12/22/10 20:26	
Phenol	ug/L	ND	1.0	12/22/10 20:26	
Pyrene	ug/L	ND	1.0	12/22/10 20:26	
2,4,6-Tribromophenol (S)	%	42	10-123	12/22/10 20:26	
2-Fluorobiphenyl (S)	%	35	43-116	12/22/10 20:26	S1
2-Fluorophenol (S)	%	20	21-110	12/22/10 20:26	S1
Nitrobenzene-d5 (S)	%	37	35-114	12/22/10 20:26	
Phenol-d6 (S)	%	13	10-110	12/22/10 20:26	
Terphenyl-d14 (S)	%	48	33-141	12/22/10 20:26	

LABORATORY CONTROL SAMPLE: 251540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2,4-Trichlorobenzene	ug/L	5	1.9	39	39-98	
1,2-Dichlorobenzene	ug/L		ND			
1,3-Dichlorobenzene	ug/L		ND			
1,4-Dichlorobenzene	ug/L	5	1.6	32	20-124	
1-Methylnaphthalene	ug/L	5	2.2	45	40-140	
2,4,5-Trichlorophenol	ug/L		ND			
2,4,6-Trichlorophenol	ug/L		ND			
2,4-Dichlorophenol	ug/L		ND			
2,4-Dimethylphenol	ug/L		ND			

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QUALITY CONTROL DATA

Project: [redacted]SR
Pace Project No.: 3040195

LABORATORY CONTROL SAMPLE: 251540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,4-Dinitrophenol	ug/L		ND			
2,4-Dinitrotoluene	ug/L	5	2.3	46	39-139	
2,6-Dinitrotoluene	ug/L		ND			
2-Chloronaphthalene	ug/L		ND			
2-Chlorophenol	ug/L	5	1.9	38	23-134	
2-Methylnaphthalene	ug/L	5	2.1	42	40-140	
2-Methylphenol(o-Cresol)	ug/L		ND			
2-Nitroaniline	ug/L		ND			
2-Nitrophenol	ug/L		ND			
3&4-Methylphenol(m&p Cresol)	ug/L		ND			
3,3'-Dichlorobenzidine	ug/L		ND			
3-Nitroaniline	ug/L		ND			
4,6-Dinitro-2-methylphenol	ug/L		ND			
4-Bromophenylphenyl ether	ug/L		ND			
4-Chloro-3-methylphenol	ug/L	5	2.7	53	22-147	
4-Chloroaniline	ug/L		ND			
4-Chlorophenylphenyl ether	ug/L		ND			
4-Nitroaniline	ug/L		ND			
4-Nitrophenol	ug/L	5	1.5	31	1-132	
Acenaphthene	ug/L	5	2.2	44	27-133	
Acenaphthylene	ug/L	5	2.3	45	33-145	
Anthracene	ug/L	5	2.8	56	27-133	
Azobenzene	ug/L		ND			
Benzo(a)anthracene	ug/L	5	3.6	71	33-142	
Benzo(a)pyrene	ug/L	5	3.7	73	17-163	
Benzo(b)fluoranthene	ug/L	5	3.6	72	24-159	
Benzo(g,h,i)perylene	ug/L	5	5.1	102	1-219	
Benzo(k)fluoranthene	ug/L	5	3.6	71	11-162	
Benzoic acid	ug/L		ND			
Benzyl alcohol	ug/L		ND			
bis(2-Chloroethoxy)methane	ug/L		ND			
bis(2-Chloroethyl) ether	ug/L		ND			
bis(2-Chloroisopropyl) ether	ug/L		ND			
bis(2-Ethylhexyl)phthalate	ug/L		ND			
Butylbenzylphthalate	ug/L		ND			
Carbazole	ug/L		ND			
Chrysene	ug/L	5	3.4	68	17-168	
Di-n-butylphthalate	ug/L		ND			
Di-n-octylphthalate	ug/L		ND			
Dibenz(a,h)anthracene	ug/L	5	5.2	103	1-227	
Dibenzofuran	ug/L		ND			
Diethylphthalate	ug/L		ND			
Dimethylphthalate	ug/L		ND			
Fluoranthene	ug/L	5	3.4	68	26-137	
Fluorene	ug/L	5	2.4	48	59-121	L0
Hexachloro-1,3-butadiene	ug/L		ND			
Hexachlorobenzene	ug/L		ND			
Hexachlorocyclopentadiene	ug/L		ND			

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

LABORATORY CONTROL SAMPLE: 251540

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Hexachloroethane	ug/L		ND			
Indeno(1,2,3-cd)pyrene	ug/L	5	4.8	97	1-171	
Isophorone	ug/L		ND			
N-Nitroso-di-n-propylamine	ug/L	5	2.2	44	1-230	
N-Nitrosodimethylamine	ug/L		ND			
N-Nitrosodiphenylamine	ug/L		ND			
Naphthalene	ug/L	5	2.0	40	21-133	
Nitrobenzene	ug/L		ND			
Pentachlorophenol	ug/L	5	4.8	91	14-176	
Phenanthrene	ug/L	5	2.8	56	54-120	
Phenol	ug/L	5	.79J	16	5-112	
Pyrene	ug/L	5	3.2	65	26-127	
2,4,6-Tribromophenol (S)	%			58	10-123	
2-Fluorobiphenyl (S)	%			43	43-116	
2-Fluorophenol (S)	%			21	21-110	
Nitrobenzene-d5 (S)	%			40	35-114	
Phenol-d6 (S)	%			15	10-110	
Terphenyl-d14 (S)	%			65	33-141	

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QUALITY CONTROL DATA

Project: [redacted]-26R
Pace Project No.: 3040195

[redacted]

METHOD BLANK: 253919 Matrix: Water

Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	ug/L	ND	1.0	12/28/10 12:04	
Toluene	ug/L	ND	1.0	12/28/10 12:04	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/28/10 12:04	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/28/10 12:04	
Trichloroethene	ug/L	ND	1.0	12/28/10 12:04	
Vinyl chloride	ug/L	ND	1.0	12/28/10 12:04	
Xylene (Total)	ug/L	ND	3.0	12/28/10 12:04	
1,2-Dichloroethane-d4 (S)	%	90	70-130	12/28/10 12:04	
4-Bromofluorobenzene (S)	%	108	70-130	12/28/10 12:04	
Toluene-d8 (S)	%	112	70-130	12/28/10 12:04	

LABORATORY CONTROL SAMPLE: 253920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	16.9	85	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	22.4	112	70-130	
1,1,2-Trichloroethane	ug/L	20	20.1	101	70-130	
1,1-Dichloroethane	ug/L	20	15.9	80	70-130	
1,1-Dichloroethene	ug/L	20	15.0	75	70-130	
1,2,4-Trichlorobenzene	ug/L	20	24.0	120	70-130	
1,2,4-Trimethylbenzene	ug/L	20	24.7	124	70-130	
1,2-Dichlorobenzene	ug/L	20	23.3	117	70-130	
1,2-Dichloroethane	ug/L	20	15.9	79	70-130	
1,2-Dichloropropane	ug/L	20	20.2	101	70-130	
1,3,5-Trimethylbenzene	ug/L	20	25.4	127	70-130	
1,3-Dichlorobenzene	ug/L	20	23.5	117	70-130	
1,4-Dichlorobenzene	ug/L	20	23.7	119	70-130	
2-Butanone (MEK)	ug/L	20	16.6	83	70-130	
2-Hexanone	ug/L	20	22.0	110	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	20	20.0	100	70-130	
Acetone	ug/L	20	16.7	84	70-130	
Benzene	ug/L	20	20.9	105	70-130	
Bromochloromethane	ug/L	20	15.5	77	70-130	
Bromodichloromethane	ug/L	20	19.7	99	70-130	
Bromoform	ug/L	20	20.3	101	70-130	
Bromomethane	ug/L	20	32.8	164	70-130	L1
Carbon disulfide	ug/L	20	17.8	89	70-130	
Carbon tetrachloride	ug/L	20	17.0	85	70-130	
Chlorobenzene	ug/L	20	21.4	107	70-130	
Chloroethane	ug/L	20	15.0	75	70-130	
Chloroform	ug/L	20	16.4	82	70-130	
Chloromethane	ug/L	20	13.9	70	70-130	
cis-1,2-Dichloroethene	ug/L	20	16.3	82	70-130	
cis-1,3-Dichloropropene	ug/L	20	21.5	108	70-130	
Dibromochloromethane	ug/L	20	20.8	104	70-130	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: MSV/6150
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 3038842003

METHOD BLANK: 253919
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	ND	1.0	12/28/10 12:04	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/28/10 12:04	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/28/10 12:04	
1,1-Dichloroethane	ug/L	ND	1.0	12/28/10 12:04	
1,1-Dichloroethene	ug/L	ND	1.0	12/28/10 12:04	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/28/10 12:04	
1,2,4-Trimethylbenzene	ug/L	ND	1.0	12/28/10 12:04	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/28/10 12:04	
1,2-Dichloroethane	ug/L	ND	1.0	12/28/10 12:04	
1,2-Dichloropropane	ug/L	ND	1.0	12/28/10 12:04	
1,3,5-Trimethylbenzene	ug/L	ND	1.0	12/28/10 12:04	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/28/10 12:04	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/28/10 12:04	
2-Butanone (MEK)	ug/L	ND	10.0	12/28/10 12:04	
2-Hexanone	ug/L	ND	10.0	12/28/10 12:04	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	10.0	12/28/10 12:04	
Acetone	ug/L	ND	10.0	12/28/10 12:04	
Benzene	ug/L	ND	1.0	12/28/10 12:04	
Bromochloromethane	ug/L	ND	1.0	12/28/10 12:04	
Bromodichloromethane	ug/L	ND	1.0	12/28/10 12:04	
Bromoform	ug/L	ND	1.0	12/28/10 12:04	
Bromomethane	ug/L	ND	1.0	12/28/10 12:04	
Carbon disulfide	ug/L	ND	1.0	12/28/10 12:04	
Carbon tetrachloride	ug/L	ND	1.0	12/28/10 12:04	
Chlorobenzene	ug/L	ND	1.0	12/28/10 12:04	
Chloroethane	ug/L	ND	1.0	12/28/10 12:04	
Chloroform	ug/L	ND	1.0	12/28/10 12:04	
Chloromethane	ug/L	ND	1.0	12/28/10 12:04	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/28/10 12:04	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/28/10 12:04	
Dibromochloromethane	ug/L	ND	1.0	12/28/10 12:04	
Ethylbenzene	ug/L	ND	1.0	12/28/10 12:04	
Isopropylbenzene (Cumene)	ug/L	ND	1.0	12/28/10 12:04	
m&p-Xylene	ug/L	ND	2.0	12/28/10 12:04	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/28/10 12:04	
Methylene Chloride	ug/L	ND	1.0	12/28/10 12:04	
n-Butylbenzene	ug/L	ND	1.0	12/28/10 12:04	
n-Propylbenzene	ug/L	ND	1.0	12/28/10 12:04	
Naphthalene	ug/L	ND	2.0	12/28/10 12:04	
o-Xylene	ug/L	ND	1.0	12/28/10 12:04	
p-Isopropyltoluene	ug/L	ND	1.0	12/28/10 12:04	
sec-Butylbenzene	ug/L	ND	1.0	12/28/10 12:04	
Styrene	ug/L	ND	1.0	12/28/10 12:04	

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QUALITY CONTROL DATA

Project: [redacted]SR
Pace Project No.: 30400195

LABORATORY CONTROL SAMPLE: 253920

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ethylbenzene	ug/L	20	22.2	111	70-130	
Isopropylbenzene (Cumene)	ug/L	20	25.1	126	70-130	
m&p-Xylene	ug/L	40	44.0	110	70-130	
Methyl-tert-butyl ether	ug/L	20	17.9	90	70-130	
Methylene Chloride	ug/L	20	15.1	75	70-130	
n-Butylbenzene	ug/L	20	25.3	127	70-130	
n-Propylbenzene	ug/L	20	25.6	128	70-130	
Naphthalene	ug/L	20	24.4	122	70-130	
o-Xylene	ug/L	20	21.8	109	70-130	
p-Isopropyltoluene	ug/L	20	25.2	126	70-130	
sec-Butylbenzene	ug/L	20	25.4	127	70-130	
Styrene	ug/L	20	21.1	106	70-130	
Tetrachloroethene	ug/L	20	21.8	109	70-130	
Toluene	ug/L	20	21.2	106	70-130	
trans-1,2-Dichloroethene	ug/L	20	16.0	80	70-130	
trans-1,3-Dichloropropene	ug/L	20	20.3	101	70-130	
Trichloroethene	ug/L	20	20.4	102	70-130	
Vinyl chloride	ug/L	20	13.9	70	70-130	
Xylene (Total)	ug/L	60	65.9	110	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			113	70-130	
Toluene-d8 (S)	%			110	70-130	

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QUALITY CONTROL DATA

Project: [redacted] 28R
Pace Project No.: 3040195

QC Batch: WET/7925
QC Batch Method: EPA 1010
Associated Lab Samples: 3038842003

Analysis Method: EPA 1010
Analysis Description: 1010 Flash Point, Closed Cup

METHOD BLANK: 250775
Associated Lab Samples: 3038842003

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Flashpoint	deg F	>200	60.0	12/20/10 21:31	

SAMPLE DUPLICATE: 250774

Parameter	Units	3038820001 Result	Dup Result	RPD	Qualifiers
Flashpoint	deg F	>200	>200		

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

QC Batch: WET/80277 Analysis Method: EPA 1664A
QC Batch Method: EPA 1664A Analysis Description: 1664 HEM, Oil and Grease
Associated Lab Samples: 3038842003

METHOD BLANK: 254747 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	01/04/11 08:30	

METHOD BLANK: 254749 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Oil and Grease	mg/L	ND	5.0	01/04/11 08:30	

LABORATORY CONTROL SAMPLE: 254748

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	42.1	37.9	90	78-114	

LABORATORY CONTROL SAMPLE: 254750

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Oil and Grease	mg/L	42.1	39.1	93	78-114	

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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

QC Batch: WET/7936 Analysis Method: SM 2310B
QC Batch Method: SM 2310B Analysis Description: 2310B Acidity, Total
Associated Lab Samples: 3038842003

METHOD BLANK: 251179 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acidity, Total	mg/L	ND	10.0	12/21/10 15:00	

METHOD BLANK: 251180 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Acidity, Total	mg/L	ND	10.0	12/21/10 15:00	

SAMPLE DUPLICATE: 251181

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Acidity, Total	mg/L	ND	ND		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: [redacted]SR
Pace Project No.: 3040196

QC Batch: WET/7937
QC Batch Method: SM 2320B
Analysis Method: SM 2320B
Analysis Description: 2320B Alkalinity
Associated Lab Samples: 3038842003

METHOD BLANK: 251182 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	12/21/10 15:00	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	12/21/10 15:00	

METHOD BLANK: 251183 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	10.0	12/21/10 15:00	
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	10.0	12/21/10 15:00	

LABORATORY CONTROL SAMPLE: 251184

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	20	20.0	100	85-115	
Alkalinity,Bicarbonate (CaCO3)	mg/L	20	20.0	100	85-115	

MATRIX SPIKE SAMPLE: 251185

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	100	100	94	80-120	M0
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	100	ND	-8	80-120	

SAMPLE DUPLICATE: 251186

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Alkalinity, Total as CaCO3	mg/L	ND	6J		
Alkalinity,Bicarbonate (CaCO3)	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WET/7943
QC Batch Method: SM 2540C
Analysis Method: SM 2540C
Analysis Description: 2540C Total Dissolved Solids
Associated Lab Samples: 3038842003

METHOD BLANK: 251504
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Dissolved Solids	mg/L	ND	10.0	12/21/10 16:51	

LABORATORY CONTROL SAMPLE: 251505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Total Dissolved Solids	mg/L	1000	938	94	85-115	

SAMPLE DUPLICATE: 251506

Parameter	Units	3039000001 Result	Dup Result	RPD	Qualifiers
Total Dissolved Solids	mg/L	859	860	.1	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch:	WET/7916	Analysis Method:	SM 4500-H+B
QC Batch Method:	SM 4500-H+B	Analysis Description:	4500H+B pH
Associated Lab Samples:	3038842003		

SAMPLE DUPLICATE: 250393

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.1	6.2	.8	H6

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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

[redacted]

QC Batch:	WET/7921	Analysis Method:	SM 2540D
QC Batch Method:	SM 2540D	Analysis Description:	2540D Total Suspended Solids

Associated Lab Samples: 3038842003

METHOD BLANK: 250744 Matrix: Water

Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Total Suspended Solids	mg/L	ND	4.0	12/20/10 15:11	

SAMPLE DUPLICATE: 250745

Parameter	Units	3038896001 Result	Dup Result	RPD	Qualifiers
Total Suspended Solids	mg/L	ND	4.0		

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3048195

QC Batch: WET/7910
QC Batch Method: SM-5210B
Associated Lab Samples: 3038842003

Analysis Method: SM-5210B
Analysis Description: 5210B BOD, 5 day

METHOD BLANK: 250082 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
BOD, 5 day	mg/L	ND	2.0	12/22/10 16:45	B5

LABORATORY CONTROL SAMPLE: 250083

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec. Limits	Qualifiers
BOD, 5 day	mg/L	198	181	91	84.6-115.4	

SAMPLE DUPLICATE: 250084

Parameter	Units	3038734001 Result	Dup Result	RPD	Qualifiers
BOD, 5 day	mg/L	85.0	97.2	13	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WET/7914
QC Batch Method: SM 5540C
Analysis Method: SM 5540C
Analysis Description: 5540C MBAS Surfactants
Associated Lab Samples: 3038842003

METHOD BLANK: 250383 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Surfactants	mg/L	ND	0.10	12/17/10 19:14	

LABORATORY CONTROL SAMPLE: 250384

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Surfactants	mg/L	1	1.0	105	85-115 SU	

MATRIX SPIKE SAMPLE: 250386

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Surfactants	mg/L	ND	1	1.1	107	85-115	

SAMPLE DUPLICATE: 250385

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Surfactants	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WET/8095
QC Batch Method: EPA 9050
Associated Lab Samples: 3038842003

Analysis Method: EPA 9050
Analysis Description: 9050 Specific Conductance

METHOD BLANK: 257101
Associated Lab Samples: 3038842003

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	01/12/11 00:00	

LABORATORY CONTROL SAMPLE: 257102

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1410	1410	100	85-115	

SAMPLE DUPLICATE: 257103

Parameter	Units	3038789001 Result	Dup Result	RPD	Qualifiers
Specific Conductance	umhos/cm	3650	3660	3	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WETA/5958
QC Batch Method: EPA 300.0
Analysis Method: EPA 300.0
Analysis Description: 300.0 IC Anions 28day
Associated Lab Samples: 3038842003

METHOD BLANK: 250976 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Bromide	mg/L	ND	0.062	12/21/10 00:00	

LABORATORY CONTROL SAMPLE: 250977

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	2	1.8	91	80-120	

MATRIX SPIKE SAMPLE: 250978

Parameter	Units	3038407001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Bromide	mg/L	ND	2	1.8	90	80-120	

SAMPLE DUPLICATE: 250979

Parameter	Units	3038407001 Result	Dup Result	RPD	Qualifiers
Bromide	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

QC Batch: WETA/6818
QC Batch Method: EPA 350.1
Associated Lab Samples: 3038842003

Analysis Method: EPA 350.1
Analysis Description: 350.1 Ammonia, Distilled

METHOD BLANK: 254469
Associated Lab Samples: 3038842003

Matrix: Water

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Ammonia, Distilled	mg/L	ND	0.10	01/03/11 14:02	

LABORATORY CONTROL SAMPLE: 254470

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Ammonia, Distilled	mg/L	4	4.1	102	85-115	

MATRIX SPIKE SAMPLE: 254471

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Ammonia, Distilled	mg/L	0.12	4	4.1	99	85-115	

SAMPLE DUPLICATE: 254472

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Ammonia, Distilled	mg/L	0.12	0.10	16	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WETA/6068
QC Batch Method: EPA 351.2
Analysis Method: EPA 351.2
Analysis Description: 351.2 TKN
Associated Lab Samples: 3038842003

METHOD BLANK: 256881 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	1.0	01/11/11 13:57	

LABORATORY CONTROL SAMPLE: 256882

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	4	3.9	98	90-110	

MATRIX SPIKE SAMPLE: 256883

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	4	4.2	101	90-110	

SAMPLE DUPLICATE: 256884

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Nitrogen, Kjeldahl, Total	mg/L	ND	.32J		

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: [redacted]
Pace Project No.: 3040195

QC Batch: WETA/6055 Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4 Analysis Description: 410.4 COD
Associated Lab Samples: 3038842003

METHOD BLANK: 256202 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

METHOD BLANK: 256204 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

METHOD BLANK: 256205 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	25.0	01/07/11 10:10	

LABORATORY CONTROL SAMPLE: 256203

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	298	99	90-110	

MATRIX SPIKE SAMPLE: 256206

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	ND	150	156	100	90-110	

SAMPLE DUPLICATE: 256207

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Chemical Oxygen Demand	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: WETA/5980
QC Batch Method: EPA 420.1
Analysis Method: EPA 420.1
Analysis Description: 420.1 Phenolics
Associated Lab Samples: 3038842003

METHOD BLANK: 252195
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Phenol	mg/L	ND	0.050	12/22/10 23:07	

LABORATORY CONTROL SAMPLE: 252196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	.25	0.26	103	85-115	

MATRIX SPIKE SAMPLE: 252197

Parameter	Units	3038851001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Phenol	mg/L	0.057	.25	0.29	95	85-115	

SAMPLE DUPLICATE: 252198

Parameter	Units	3039002001 Result	Dup Result	RPD	Qualifiers
Phenol	mg/L	0.29	0.30	4	

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

QC Batch: WETA/5971
QC Batch Method: SM 4500-Cl-E
Analysis Method: SM 4500-Cl-E
Analysis Description: 4500 Chloride
Associated Lab Samples: 3038842003

METHOD BLANK: 251636 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	3.0	12/22/10 11:50	

METHOD BLANK: 251972 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	3.0	12/22/10 00:00	1c

LABORATORY CONTROL SAMPLE: 251637

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	40	38.9	97	85-115	

MATRIX SPIKE SAMPLE: 251638

Parameter	Units	3038958001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	7.6	20	24.3	83	85-115	M1

SAMPLE DUPLICATE: 251639

Parameter	Units	3038958001 Result	Dup Result	RPD	Qualifiers
Chloride	mg/L	7.6	7.5	2	

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QUALITY CONTROL DATA

Project: [redacted]-26R
Pace Project No.: 3040195

QC Batch: WETA/5990
QC Batch Method: SM 4500-NO3 F
Analysis Method: SM 4500-NO3 F
Analysis Description: SM4500NO3-F, Nitrate, Preserved
Associated Lab Samples: 3038842003

METHOD BLANK: 253056 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	ND	0.10	12/27/10 14:56	

LABORATORY CONTROL SAMPLE: 253057

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	4	3.9	96	85-115	

MATRIX SPIKE SAMPLE: 253058

Parameter	Units	3038842003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	0.32	5	5.2	97	85-115	

SAMPLE DUPLICATE: 253059

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Nitrogen,NO2 plus NO3	mg/L	0.32	0.31	2	

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

[redacted]

QC Batch: WETA/5948
QC Batch Method: SW-846 7.3.3.2 Modified
Analysis Method: SW-846 7.3.3.2 Modified
Analysis Description: 733C Reactive Cyanide
Associated Lab Samples: 3038842003

METHOD BLANK: 250778
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide, Reactive	mg/L	ND	0.0050	12/20/10 20:40	

SAMPLE DUPLICATE: 250779

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Cyanide, Reactive	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]6R
Pace Project No.: 3040195

QC Batch: WETA/5950
QC Batch Method: SW-846 7.3.4.2
Analysis Method: SW-846 7.3.4.2
Analysis Description: 7S Reactive Sulfide
Associated Lab Samples: 3038842003

METHOD BLANK: 250782 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide, Reactive	mg/L	ND	1.0	12/20/10 21:41	

SAMPLE DUPLICATE: 250783

Parameter	Units	3038842003 Result	Dup Result	RPD	Qualifiers
Sulfide, Reactive	mg/L	ND	ND		

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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3040195

QC Batch: WETA/6067
QC Batch Method: ASTM D516-90,02
Associated Lab Samples: 3038842003

Analysis Method: ASTM D516-90,02
Analysis Description: ASTM D516-9002 Sulfate Water

METHOD BLANK: 256737 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	10.0	01/11/11 13:38	

LABORATORY CONTROL SAMPLE: 256738

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	30	30.5	102	85-115	

MATRIX SPIKE SAMPLE: 256739

Parameter	Units	3039317010 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	17.6	20	38.8	106	85-115	

SAMPLE DUPLICATE: 256740

Parameter	Units	3039317010 Result	Dup Result	RPD	Qualifiers
Sulfate	mg/L	17.6	18.7	6	

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ANALYTICAL RESULTS

Project: [redacted] 26R
Pace Project No.: 3040195

Sample: [redacted] WC801 - Run off Water Lab ID: 3038842003 Collected: 12/16/10 14:47 Received: 12/17/10 11:00 Matrix: Water

PWS: Site ID: Sample Type:

Parameters	Method	Act ± Unc (MDC)	Units	Analyzed	CAS No.	Qual
Gross Alpha	EPA 900.0m	0.811 ± 1.27 (2.61)	pCi/L	12/30/10 12:52	12587-46-1	
Gross Beta	EPA 900.0m	3.62 ± 1.45 (2.30)	pCi/L	12/30/10 12:52	12587-47-2	
Radium-226	EPA 903.1	0.0672 ± 0.295 (0.624)	pCi/L	12/29/10 12:52	13982-63-3	
Radium-228	EPA 904.0	2.03 ± 0.687 (0.994)	pCi/L	01/06/11 12:01	15262-20-1	
Total Uranium	ASTM D5174-97	1.61 ± 0.041 (0.210)	ug/L	12/22/10 09:42	7440-61-1	
Thorium-230	HSL-300m	0.195 ± 0.194 (0.255)	pCi/L	12/23/10 08:56	14269-63-7	

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QUALITY CONTROL DATA

Project: [redacted]26R [redacted]
Pace Project No.: 3040195

QC Batch: RADC/7044 Analysis Method: ASTM D5174.97
QC Batch Method: ASTM D5174.97 Analysis Description: D5174.97 Total Uranium KPA
Associated Lab Samples: 3038842003

METHOD BLANK: 250946 Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Total Uranium	0.153 ± 0.006 (0.210)	ug/L	12/22/10 09:14	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project [redacted]28R
Pace Project No.: 3040195

QC Batch: RADC/7054
QC Batch Method: HSL-300m
Analysis Method: HSL-300m
Analysis Description: HSL300(AS) Actinides
Associated Lab Samples: 3038842003

METHOD BLANK: 250955
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Thorium-230	-0.061 ± 0.100 (0.319)	pCi/L	12/23/10 08:55	

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QUALITY CONTROL DATA

Project: [redacted]26R
Pace Project No.: 3040195

QC Batch: RADC/7056
QC Batch Method: EPA 903.1
Analysis Method: EPA 903.1
Analysis Description: 903.1 Radium-226
Associated Lab Samples: 3038842003

METHOD BLANK: 250957
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-226	-0.166 ± 0.288 (0.725)	pCi/L	12/29/10 10:45	

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QUALITY CONTROL DATA

Project: [redacted] 26R
Pace Project No.: 3040195

QC Batch:	RADC/7118	Analysis Method:	EPA 900.0m
QC Batch Method:	EPA 900.0m	Analysis Description:	900.0 Gross Alpha/Beta

Associated Lab Samples: 3038842003

METHOD BLANK: 253874 Matrix: Water

Associated Lab Samples: 3038842003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Gross Alpha	-0.283 ± 0.578 (1.72)	pCi/L	12/30/10 12:50	
Gross Beta	-0.897 ± 0.650 (1.79)	pCi/L	12/30/10 12:50	

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: [redacted]R
Pace Project No.: 3048195

QC Batch: RADC/7129
QC Batch Method: EPA 904.0
Analysis Method: EPA 904.0
Analysis Description: 904.0 Radium 228
Associated Lab Samples: 3038842003

METHOD BLANK: 254379
Matrix: Water
Associated Lab Samples: 3038842003

Parameter	Act ± Unc (MDC)	Units	Analyzed	Qualifiers
Radium-228	0.603 ± 0.473 (0.941)	pCi/L	01/06/11 11:57	

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: [redacted]SR
Pace Project No.: 3040195

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.

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.

Act - Activity

Unc - Uncertainty

(MDC) - Minimum Detectable Concentration

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

LABORATORIES

PASI-PA Pace Analytical Services - Greensburg

BATCH QUALIFIERS

Batch: OEXT/6803

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

Batch: OEXT/6804

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

Batch: OEXT/6813

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

ANALYTE QUALIFIERS

1c	ASTM BLANK
B5	BOD seed blank was outside acceptance criteria. Reported results were accepted based on remaining quality control indicators.
H6	Analysis initiated more than 15 minutes after sample collection.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L2	Analyte recovery in the laboratory control sample (LCS) was below QC limits. Results for this analyte in associated samples may be biased low.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: [redacted] RR
Pace Project No.: 3040195

[redacted]

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
3038842003	[redacted]WC801 - Run off Water	EPA 3510	OEXT/6803	EPA 8081	GCSV/3105
3038842003	[redacted]WC801 - Run off Water	EPA 3510	OEXT/6804	EPA 8082	GCSV/3101
3038842003	[redacted]WC801 - Run off Water	SM 2340B	ICP/4631		
3038842003	[redacted]WC801 - Run off Water	EPA 3005	MPRP/5157	EPA 6010B	ICP/4702
3038842003	[redacted]WC801 - Run off Water	EPA 3005	MPRP/5203	EPA 6010	ICP/4733
3038842003	[redacted]WC801 - Run off Water	EPA 7470	MERP/2481	EPA 7470	MERC/2409
3038842003	[redacted]WC801 - Run off Water	EPA 3510	OEXT/6813	EPA 8270	MSSV/2630
3038842003	[redacted]WC801 - Run off Water	EPA 8260	MSV/8150		
3038842003	[redacted]WC801 - Run off Water	EPA 900.0m	RADC/7118		
3038842003	[redacted]WC801 - Run off Water	EPA 903.1	RADC/7056		
3038842003	[redacted]WC801 - Run off Water	EPA 904.0	RADC/7129		
3038842003	[redacted]WC801 - Run off Water	ASTM D5174-97	RADC/7044		
3038842003	[redacted]WC801 - Run off Water	HSL-300m	RADC/7054		
3038842003	[redacted]WC801 - Run off Water	EPA 1010	WET/7925		
3038842003	[redacted]WC801 - Run off Water	EPA 1664A	WET/8027		
3038842003	[redacted]WC801 - Run off Water	SM 2310B	WET/7936		
3038842003	[redacted]WC801 - Run off Water	SM 2320B	WET/7937		
3038842003	[redacted]WC801 - Run off Water	SM 2540C	WET/7943		
3038842003	[redacted]WC801 - Run off Water	SM 2540D	WET/7921		
3038842003	[redacted]WC801 - Run off Water	SM 4500-H+B	WET/7916		
3038842003	[redacted]WC801 - Run off Water	SM 5210B	WET/7910	SM 5210B	WET/7963
3038842003	[redacted]WC801 - Run off Water	SM 5540C	WET/7914		
3038842003	[redacted]WC801 - Run off Water	EPA 9050	WET/8095		
3038842003	[redacted]WC801 - Run off Water	EPA 300.0	WETA/5958		
3038842003	[redacted]WC801 - Run off Water	EPA 350.1	WETA/6018		
3038842003	[redacted]WC801 - Run off Water	EPA 351.2	WETA/6088		
3038842003	[redacted]WC801 - Run off Water	EPA 410.4	WETA/6055		
3038842003	[redacted]WC801 - Run off Water	EPA 420.1	WETA/5980		
3038842003	[redacted]WC801 - Run off Water	SM 4500-Cl-E	WETA/5971		
3038842003	[redacted]WC801 - Run off Water	SM 4500-NO3 F	WETA/5990		
3038842003	[redacted]WC801 - Run off Water	SW-846 7.3.3.2 Modified	WETA/5948		
3038842003	[redacted]WC801 - Run off Water	SW-846 7.3.4.2	WETA/5950		
3038842003	[redacted]WC803 - Run off Water	ASTM D516-90,02	WETA/6067		

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QUALIFIERS

Project: [redacted]28R
Pace Project No.: 3040195

[redacted]

ANALYTE QUALIFIERS

S1	Surrogate recovery outside laboratory control limits (confirmed by re-analysis).
SU	MBAS, calculated as LAS, Mol wt 342.2 g/mol

[redacted]

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: [redacted]28R
Pace Project No.: 30400195

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

[redacted]

December 29, 2010

Timothy Reed
PASI Pittsburgh
email
Roseytown, PA 15601

RE: Project 20118066
Project ID: 3038842

Dear Timothy Reed:

Enclosed are the analytical results for sample(s) received by the laboratory on December 17, 2010. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Karen Brown
karen.brown@pacelabs.com

nelac

REPORT OF LABORATORY ANALYSIS

Cover 12/29/2010 12:15:29

COG-EPA000157

Sample Cross Reference

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20118066

Client: PASI Pittsburgh

Project ID: 3038842

Client Sample ID	Lab ID	Matrix	Collection Date/Time	Received Date/Time
[redacted]/C803	20848425	Soil	16-Dec-10 13:15	17-Dec-10 11:03
[redacted]/C804 (LEACH)	20848426	Soil	16-Dec-10 13:15	17-Dec-10 11:03
[redacted]	20848427	Water	16-Dec-10 14:47	17-Dec-10 11:03

CrossRef 12/29/2010 12:15:32

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Laboratory Certifications

Pace Analytical Services, Inc.
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(504) 469-0333

Project: 20118066

Client: PASI Pittsburgh

Project ID: 3038842

Washington Department of Ecology C2078
Oregon Environmental Laboratory Accreditation - LA200001
U.S. Dept. of Agriculture Foreign Soil Import P530-10-00119
Pennsylvania Dept. of Env Protection (NELAC) 68-04202
Texas Commission on Env. Quality (NELAC) T104704405-09-TX
Kansas Department of Health and Environment (NELAC) E-10266
Florida Department of Health (NELAC) E87595
Louisiana Dept. of Health and Hospitals (NELAC) LA100024
Louisiana Dept. of Environmental Quality (NELAC/LELAP) 02006

[redacted]

ACCREDITED IN ACCORDANCE WITH nelac

REPORT OF LABORATORY ANALYSIS

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project Narrative

Project: 20118066

Sample Receipt Condition:
All samples were received in accordance with EPA pr[redacted]

Holding Times:
All holding times were met.

Blanks:
All blank results were below reporting limits.

Laboratory Control Samples:
All LCS recoveries were within QC limits.

Matrix Spikes and Duplicates:
MS or MSD recoveries outside of QC limits are qualified in the Report of Quality Control section.

Surrogates:
All surrogate recoveries were within QC limits.

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(504) 469-0333

QC Cross Reference

Project: 20118066

Analytical Method	Batch	Sample used for QC
EPA 8151	152611	Batch sample from another client
Dry Weight Moisture	152739	Client sample [redacted] RCWE01 S22-27 from project 20118063

Revised 12/29/2010 12:16:03

For the sample used as the original for the DUP or MS/MSD for the batch:

Project sample means a sample from this project was used.
Client sample means a sample from the same client but in a different project was used.
Batch sample means a sample from a different client was used.

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Sample Results

Pace Analytical Services, Inc.
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St. Rose, LA 70087
(504) 469-0333

Client: PASI Pittsburgh

Client ID: [redacted]WC803
Project: 20118066 [redacted]
Project ID: 3038842
Site: None
Lab ID: 20848425
Matrix: Soil
% Moisture: 46.7 Corrected
Description: None
Prep Level: Soil
Batch: 152611
Method: EPA 8151
8151 Herbs Low Soil
Collected: 16-Dec-10
Received: 17-Dec-10
Prepared: 22-Dec-10

Units: ug/kg

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis	
94-75-7	2,4-D	1	ND	P12	1170		27-Dec-10 17:23	SPP1
93-76-5	2,4,5-T	1	ND	P12	1170		27-Dec-10 17:23	SPP1
93-72-1	2,4,5-TP (Silvex)	1	ND	P12	1170		27-Dec-10 17:23	SPP1

3 compound(s) reported

#Name?

Protocol 12/29/2010 13:16:04
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu field qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested verification limit.

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Sample Results

Pace Analytical Services, Inc.
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(504) 469-0333

Client: PASI Pittsburgh

Client ID: [redacted]/C804 (LEACH)
Project ID: 3038842
Lab ID: 20848426 (TCLP)
Description: None
Method: EPA 8151 (TCLP)
8151 Herbs TCLP

Project: 20118066 [redacted]
Site: None
Matrix: Soil **% Moisture:** 0 Not Corrected
Prep Level: TCLP **Batch:** 152604

Collected: 16-Dec-10 **Received:** 17-Dec-10
Prepared: 22-Dec-10

Units: mg/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis	
94-75-7	2,4-D	1	ND		0.0200	10.0	24-Dec-10 04:06	SPP1
93-72-1	2,4,5-TP (Silvex)	1	ND		0.0200	1.00	24-Dec-10 04:06	SPP1

2 compound(s) reported

#Num?

Protocol 12/29/2010 12:16:04
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client requested notification limit.

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Sample Results

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
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(504) 469-0333

Client: PASI Pittsburgh

Client ID: [redacted]WC801
Project ID: 3038842
Lab ID: 20848427
Description: None
Method: EPA 8151
8151 Herbs Water

Project: 20118066
Site: None
Matrix: Water
Prep Level: Water
% Moisture: n/a
Batch: 152657

Collected: 16-Dec-10
Received: 17-Dec-10
Prepared: 22-Dec-10

Units: ug/L

CAS No.	Analyte	Dilution	Result	Qu	Reporting Limit	Reg Limit	Analysis
94-75-7	2,4-D	1	ND		2.00		24-Dec-10 05:38 SPPI
93-76-5	2,4,5-T	1	ND		2.00		24-Dec-10 05:38 SPPI
93-72-1	2,4,5-TP (Silvex)	1	ND		2.00		24-Dec-10 05:38 SPPI

[redacted] reported

#None?

Printed 12/29/2010 12:18:04
Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 152604 Project: 20118066 [redacted]

Method: TCLP GC Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20848285	152604 BLANK 1		46	44						
20848286	152604 LCS 1		54	52						
20848426	[redacted]VC804 (LEACH		49	48						
	QC limits:		10-166	10-166						

Sur 1: 2,4-DCPA (Conf)(S)
Sur 2: 2,4-DCPA (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered to be routine.

Surrogates 12/29/2010 12:16:06

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Pace Analytical Services, Inc.
1009 Riverbend Blvd, Suite F
St. Rose, LA 70087
(504) 469-0333

Surrogate Recovery

Batch: 152611 Project: 20118066

Method: Soil GC Semivolatile Organics

Lab ID	Sample ID	Qn	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20848313	152611 BLANK 1		87	87						
20848314	152611 LCS 1		97	92						
20848315	[redacted] TOPSOIL MS 1		38	36				[redacted]		
20848316	[redacted] TOPSOIL MSD 1		35	32						
20848425	[redacted] WC803		118	119						
	QC limits:		10-169	10-161						

Sur 1: 2,4-DCPA (Conf)(S)
Sur 2: 2,4-DCPA (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exursion.

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Surrogate Recovery

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 152657 **Project:** 20118066

Method: Water GC Semivolatile Organics

Lab ID	Sample ID	Qu	Sur 1 %Rec	Sur 2 %Rec	Sur 3 %Rec	Sur 4 %Rec	Sur 5 %Rec	Sur 6 %Rec	Sur 7 %Rec	Sur 8 %Rec
20848454	152657 BLANK 1		43	42						
20848455	152657 LCS 1		26	26						
20848427	[redacted]WC801		27	28				[redacted]		
	QC limits:		10-166	10-166						

Sur 1: 2,4-DCPA (Conf)(S)
Sur 2: 2,4-DCPA (S)

* denotes surrogate recovery outside of QC limits.
D denotes surrogate recovery is outside of QC limits due to sample dilution, and is not considered an exception.

Surrogate 12/29/2010 12:16:56

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Batch: 152604 **Project:** 20118066 **LCS:** 20848286 24-Dec-10 2:57

Method: TCLP GC Semivolatile Organics **MS:**

Units: mg/L **MSD:**

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4-D	0.200	0.111	56								10-154			Q5
2,4,5-TP (Silvex)	0.0200	0.0106	53								24-179			Q5

2 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

QC Protocol 12/29/2010 12:16:07

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(504) 469-0333

Batch: 152611 **Project:** 20118066 **LCS:** 20848314 27-Dec-10 16:37

Method: Soil GC Semivolatile Organics **MS:** 20848315 27-Dec-10 20:50

Units: ug/kg **MSD:** 20848316 27-Dec-10 21:12

Original for MS: Batch Sample 20844388

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4-D	667.	692.	104	900.		58.1	126.	7 *	14	74 *	10-189	10-165	35	Q1
2,4,5-T	66.7	81.8	123	90.0		ND	ND	7 *	8 *	10	20-193	10-178	34	Q1
2,4,5-TP (Silvex)	66.7	65.3	98	90.0		ND	ND	16	14	16	34-188	10-184	34	

3 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Quality Control

Batch: 152657 **Project:** 20118066 **LCS:** 20848455 24-Dec-10 5:15

Method: Water GC Semivolatile Organics **MS:**

Units: ug/L **MSD:**

Original for MS:

Parameter Name	LCS Spike	LCS Found	LCS %Rec	MS Spike	Sample Found	MS Found	MSD Found	MS %Rec	MSD %Rec	RPD	QC Limits LCS	QC Limits MS/MSD	Max RPD	Qu
2,4-D	20.0	5.31	27								10-154			Q5
2,4,5-T	2.00	ND	28								10-181			Q5
2,4,5-TP (Silvex)	2.00	ND	25								24-179			Q5

3 compound(s) reported

* denotes recovery outside of QC limits.
MS/MSD RPD is calculated via SW-846 rules on the basis of spiked sample concentrations rather than spike recoveries.

QC Protocol 12/29/2010 12:16:07

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St. Rose, LA 70087
(504) 469-0333

Blank Results

Blank ID: 152604 BLANK 1 **Project:** 20118066

Lab ID: 20848285

Prep Level: TCLP **Batch:** 152604

Method: TCLP GC Semivolatile Organics

Prepared: 22-Dec-10

Units: mg/L

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis	
94-75-7	2,4-D	1	ND		0.0200	24-Dec-10 02:34	SPP1
93-72-1	2,4,5-TP (Silvex)	1	ND		0.0200	24-Dec-10 02:34	SPP1

#Name?

Protocol Blank 12/29/2010 12:16:

Limits are corrected for sample size, dilution and moisture content if applicable.
Qu lists qualifiers. Specific qualifiers are defined at the end of the report.
Regulatory limit may denote an actual regulatory limit or a client-requested notification limit.

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(504) 469-0333

Blank Results

Blank ID: 152611 BLANK 1 **Project:** 20118066

Lab ID: 20848313

Prep Level: Soil **Batch:** 152611

Method: Soil GC Semivolatile Organics

Prepared: 22-Dec-10

Units: ug/kg

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis	
94-75-7	2,4-D	1	ND		66.7	27-Dec-10 16:14	SPP1
93-76-5	2,4,5-T	1	ND		66.7	27-Dec-10 16:14	SPP1
93-72-1	2,4,5-TP (Silvex)	1	ND		66.7	27-Dec-10 16:14	SPP1

Pace Analytical™

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Blank Results

Blank ID: 152657 BLANK 1 **Project:** 20118066

Lab ID: 20848454

Prep Level: Water **Batch:** 152657

Method: Water GC Semivolatile Organics

Prepared: 22-Dec-10

Units: ug/L

CAS Numb	Analyte	Dilution	Result	Qu	Reporting Limit	Analysis
94-75-7	2,4-D	1	ND		2.00	24-Dec-10 04:52 SPP1
93-76-5	2,4,5-T	1	ND		2.00	24-Dec-10 04:52 SPP1
93-72-1	2,4,5-TP (Silvex)	1	ND		2.00	24-Dec-10 04:52 SPP1

Pace Analytical Services, Inc.
1000 Riverbend Blvd. Suite F
St. Rose, LA 70087
(504) 469-0333

Project: 20118066

Value	Description
P12	A reduced sample aliquot was prepared because of the observed nature of the sample matrix.
Q1	The matrix spike recoveries are poor. Acceptable method performance for this analyte has been demonstrated by the laboratory control sample recovery.
Q5	Insufficient sample was provided to perform matrix spike analyses on any sample in this analytical batch. Method performance for this analyte has been demonstrated by the laboratory control sample recovery.
J	This estimated value for the analyte is below the adjusted reporting limit but above the instrument reporting limit.
U	The analyte was analyzed for but not detected at the reporting limit or method detection limit indicated.
B	This analyte was detected in the method blank.
E	The sample concentration is above the linear calibrated range of the analysis.
LCS	Laboratory Control Sample.
MS(D)	Matrix Spike (Duplicate).
DUP	Sample Duplicate.
RPD	Relative Percent Difference.

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Section A — Required Client Information:

- Company: URS CORPORATION
- Address: 501 HOLIDAY DRIVE, PITTSBURGH, PA 15220
- Email To: JAMES.PINTA@URSCORP.COM
- Phone: 412-503-4600 Fax:
- Requested Due Date/TAT: 3 DAYS

Section B — Required Project Information:

- Report To: JAMES.PINTA@URSCORP.COM
- Copy To: MARC.HOLSON@URSCORP.COM
- Purchase Order No.:
- Project Name: KCG
- Project Number: 39438634.00018

Section C — Invoice Information:

- Attention: DAVID.TESTA@URSCORP.COM
- Company Name: URS CORPORATION
- Address: 501 HOLIDAY DR. PITTSBURGH, PA 15220
- Pace Quote Reference:
- Pace Project Manager: TIM REED
- Pace Profile #:

Regulatory Agency: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☐ UST ☐ RCRA ☐ OTHER____

Site Location / State: ☐ GA ☐ IL ☐ IN ☐ MI ☐ NC ☐ OH ☐ SC ☐ WI ☐ OTHER____

Filtered (Y/N)

Requested Analysis: TCLP, PH, IGNITABILITY, REACTIVE SULFIDE, REACTIVE CYANIDE

Pace Project Number / Lab I.D.: 30355412

Section D — Required Client Information: SAMPLE ID (One Character per box. (A-Z, 0-9 / ,-) IDs MUST BE UNIQUE)

ITEM #	SAMPLE ID	Matrix Code	Sample Type (G=GRAB C=COMP)	Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	Sample Temp at Collection	# of Containers	Preservatives	TCLP	PH	Ignitability	Reactive Sulfide	Reactive Cyanide	Pace Project No./Lab I.D.
[redacted]	RWC803 S1	SL	G			12-16	1:15				✓	✓	✓	✓	✓	001
	RWC803 S2	SL	G			12-16	1:20				✓	✓	✓	✓	✓	↓
	RWC803 S3	SL	G			12-16	1:23				✓	✓	✓	✓	✓	↓
	RWC803 S4	SL	G			12-16	1:25				✓	✓	✓	✓	✓	↓
	RWC803 S5	SL	G			12-16	1:27				✓	✓	✓	✓	✓	↓
	RWC805 S6	SL	G			12-16	1:30				✓	✓	✓	✓	✓	↓

Additional Comments:

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
			K. Sylvester / Pace	12/17/10	1100	See Below	Y/N (Y)	Y/N (N)	Y/N (Y)

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DEREK MCCARTY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12-16-10

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

Section A Required Client Information:

- Company: URS CORPORATION
- Address: 501 HOLIDAY DRIVE PITTSBURGH, PA 15220
- Email To: JAMES-PINTA@URSCORP.COM
- Phone: 412-503-4602 Fax:
- Requested Due Date/TAT: 3 DAYS

Section B Required Project Information:

- Report To: JAMES.PINTA@URSCORP.COM
- Copy To: MARK-HOLSW@URSCORP.COM
- Purchase Order No.:
- Project Name: KCG
- Project Number: 39938634.00018

Section C Invoice Information:

- Attention: DAVID.TESTA@URSCORP.COM
- Company Name: URS CORPORATION
- Address: 501 HOLIDAY DR. PITTSBURGH, PA 15220
- Pace Quote Reference:
- Pace Project Manager: TIM REED
- Pace Profile #:

REGULATORY AGENCY: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER

SITE LOCATION: GA / IL / IN / MI / NC / OH / SC / WI / OTHER

Filtered (Y/N)

Requested Analysis: TKN, ALKALINITY, CHLORIDE SULFATE, REACTIVE CYANIDE

Residual Chlorine (Y/N)

Pace Project Number / Lab I.D.: 3038842

Section D Required Client Information — SAMPLE ID (One character per box; Sample IDs MUST BE UNIQUE)

ITEM #	SAMPLE ID		MATRIX CODE	SAMPLE TYPE	COLLECTED DATE	COLLECTED TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	TKN	ALKALINITY	CHLORIDE SULFATE	REACTIVE CYANIDE	Lab I.D.
[redacted]	RWC801	S1	W	G	12-16		12-16	2:47	✓	✓	✓	✓	002
[redacted]	RWC801	S2	W	G	12-16		12-16	2:48	✓	✓	✓	✓	↓
[redacted]	RWC801	S3	W	G	12-16		12-16	2:49	✓	✓	✓	✓	↓
[redacted]	RWC801	S4	W	G	12-16		12-16	2:50	✓	✓	✓	✓	↓
[redacted]	RWC801	S5	W	G	12-16		12-16	2:52	✓	✓	✓	✓	↓
[redacted]	RWC801	S6	W	G	12-16		12-16	2:53	✓	✓	✓	✓	↓
[redacted]	RWC801	S7	W	G	12-16		12-16	2:54	✓	✓	✓	✓	↓
[redacted]	RWC801	S8	W	G	12-16		12-16	2:55	✓	✓	✓	✓	↓
[redacted]	RWC801	S9	W	G	12-16		12-16	2:56	✓	✓	✓	✓	↓
[redacted]	RWC801	S10	W	G	12-16		12-16	2:57	✓	✓	✓	✓	↓
[redacted]	RWC801	S11	W	G	12-16		12-16	2:58	✓	✓	✓	✓	↓
[redacted]	RWC801	S12	W	G	12-16		12-16	2:59	✓	✓	✓	✓	↓

Additional Comments:

Accepted By / Affiliation	Date	Time	Temp in °C	Received on Ice	Custody Sealed Cooler	Samples Intact
K Sylvester / Pace	12/17/10	1100	See slip	Y/N	Y/N	Y/N

SAMPLE CONDITIONS

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DEREK MURRAY

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12-16-10

F-FIN-ALL-Q020rev.3, 31Mar05, 13Jun2005

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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.

Section A — Required Client Information	Section B — Required Project Information	Section C — Invoice Information
Company: URS CORPORATION	Report To: JAMES_PIOTA@URSCORP.COM	Attention: DAVID_TESTA@URSCORP.COM
Address: 501 HOLIDAY DRIVE	Copy To: MARC_HOLSON@URSCORP.COM	Company Name: URS CORPORATION
PITTSBURGH, PA 15220		Address: 501 HOLIDAY DR, PITTSBURGH, PA 15220
Email To: JAMES_PIOTA@URSCORP.COM	Purchase Order No.:	Pace Quote Reference:
Phone: [redacted]	Project Name: KCG	Pace Project Manager: TIM REED
Requested Due Date/TAT: [redacted] DAYS	Project Number: 39433634.00018	Pace Profile #:

Regulatory Agency: NPDES / GROUND WATER / DRINKING WATER / UST / RCRA / OTHER
Site Location State: GA / IL / IN / MI / NC / OH / SC / WI / OTHER

Requested Analysis: PH, IGNITABILITY, REACTIVE SULFIDE, REACTIVE CYANIDE

Pace Project Number / Lab I.D.: 3038742

ITEM #	SAMPLE ID	MATRIX CODE	SAMPLE TYPE	COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives	PH	IGNITABILITY	REACTIVE SULFIDE	REACTIVE CYANIDE	Pace Project No./Lab I.D.
[redacted]	RWC801 S13	W	G			12-16	2:59				✓	✓	✓	✓	002
	RWC801 S14	W	G			12-16	3:00				✓	✓	✓	✓	↓
	RWC801 S15	W	G			12-16	3:00				✓	✓	✓	✓	↓
	RWC801 S16	W	G			12-16	3:01				✓	✓	✓	✓	↓
	RWC801 S17	W	G			12-16	3:02				✓	✓	✓	✓	↓
	RWC801 S18	W	G			12-16	3:03				✓	✓	✓	✓	↓
	RWC801 S19	W	G			12-16	3:04				✓	✓	✓	✓	↓
	RWC801 S20	W	G			12-16	3:05				✓	✓	✓	✓	↓
	RWC801 S21	W	G			12-16	3:06				✓	✓	✓	✓	↓

Additional Comments:

Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time	Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
			K. Sjostra / Pace	12/17/10	1100	See scale	Y	Y	Y

SAMPLE CONDITIONS

PRINT Name of SAMPLER: DELIAS MURPHY
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 12-16-10

Waters

Chemical analysis of the waste must include the following unless the generator certifies, in writing, either the concentration of the parameter or the absence of the parameter based on his/her knowledge of the manufacturing or pollution control process:

a. **Gross Analysis.** The total concentration of any constituent present at 1% or greater.

b. **Trace Analysis.** The total concentration of any constituent listed in Appendix VIII (40 CFR 261.34(e), as incorporated by reference at 25 Pa. Code 261a.1) which, based upon generator knowledge of the waste and the process generating the waste, are likely to be found in the waste at concentrations exceeding 50 ppm.

c. **Hazardous Waste Determination.** As required under 40 CFR262.11, and as incorporated by reference at 25 Pa. Code 262a.1.

   1) pH

   2) Ignitability

   3) Reactive Sulfide

   4) Reactive Cyanide

   5) Toxicity Characteristic Leaching Procedure (TCLP) - include all parameters found in 40 CFR 261.24, as incorporated by reference at 25 Pa. Code 261a.1, as well as pH of extract. Report all results in mg/L or as otherwise specified in method.

d. **Wastewater Produced from the Drilling, Completion and Production of a Marcellus Shale or Other Shale Gas Well.** In lieu of the Trace Analysis described in subsection b., the chemical analysis of wastewater produced from the drilling, completion and production of a Marcellus Shale or other shale gas well must include the following:

Acidity	Calcium	Lithium	Silver
Alkalinity (Total as CaCO3)	Chemical Oxygen Demand	Magnesium	Sodium
Aluminum	Chlorides	Manganese	Specific Conductance
Ammonia Nitrogen	Chromium	MBAS (Surfactants)	Strontium
Arsenic	Cobalt	Mercury	Sulfates
Barium	Copper	Molybdenum	Thorium
Benzene	Ethylene Glycol	Nickel	Toluene
Beryllium	Gross Alpha	Nitrite-Nitrate Nitrogen	Total Dissolved Solids
Biochemical Oxygen Demand	Gross Beta	Oil & Grease	Total Kjeldahl Nitrogen
Boron	Hardness (Total as CaCO3)	pH	Total Suspended Solids
Bromide	Iron – Dissolved	Phenolics (Total)	Uranium
Cadmium	Iron – Total	Radium 226	Zinc
	Lead	Radium 228	
		Selenium	

Additional constituents that are expected or known to be present in the wastewater.

*Note - All metals reported as total.

Bottles
O/G Phenolics
metals 9-Svoc
3-1L
2-500ml

COG-EPA000178

Chemical analysis of the waste must include the following unless the generator certifies, in writing, either the concentration of the parameter or the absence of the parameter based on his/her knowledge of the manufacturing or pollution control process:

a. **Gross Analysis.** The total concentration of any constituent present at 1% or greater.

b. **Trace Analysis.** The total concentration of any constituent listed in Appendix VIII (40 CFR 261.34(e), as incorporated by reference at 25 Pa. Code 261a.1) which, based upon generator knowledge of the waste and the process generating the waste, are likely to be found in the waste at concentrations exceeding 50 ppm.

c. **Hazardous Waste Determination.** As required under 40 CFR262.11, and as incorporated by reference at 25 Pa. Code 262a.1.

   1) pH

   2) Ignitability

   3) Reactive Sulfide

   4) Reactive Cyanide

   5) Toxicity Characteristic Leaching Procedure (TCLP) - include all parameters found in 40 CFR 261.24, as incorporated by reference at 25 Pa. Code 261a.1, as well as pH of extract. Report all results in mg/L or as otherwise specified in method.

d. **Wastewater Produced from the Drilling, Completion and Production of a Marcellus Shale or Other Shale Gas Well.** In lieu of the Trace Analysis described in subsection b., the chemical analysis of wastewater produced from the drilling, completion and production of a Marcellus Shale or other shale gas well must include the following:

Acidity	Calcium	Lithium	Silver
Alkalinity (Total as CaCO3)	Chemical Oxygen Demand	Magnesium	Sodium
Aluminum	Chlorides	Manganese	Specific Conductance
Ammonia Nitrogen	Chromium	MBAS (Surfactants)	Strontium
Arsenic	Cobalt	Mercury	Sulfates
Barium	Copper	Molybdenum	Thorium
Benzene	Ethylene Glycol	Nickel	Toluene
Beryllium	Gross Alpha	Nitrite-Nitrate Nitrogen	Total Dissolved Solids
Biochemical Oxygen Demand	Gross Beta	Oil & Grease	Total Kjeldahl Nitrogen
Boron	Hardness (Total as CaCO3)	pH	Total Suspended Solids
Bromide	Iron – Dissolved	Phenolics (Total)	Uranium
Cadmium	Iron – Total	Radium 226	Zinc
	Lead	Radium 228	
		Selenium	

Additional constituents that are expected or known to be present in the wastewater.

*Note - All metals reported as total.

Bottles

O/G Phenolics

metals

COG-EPA000179

Timothy Reed - Form 26R chain of custody

From: <David_Testa@URSCorp.com>
To: <Derek_Murray@URSCorp.com>
Date: 12/13/2010 8:28 AM
Subject: Form 26R chain of custody
CC: <James_Pinta@URSCorp.com>, <timothy.reed@pacelabs.com>

Derek:

Include the following on the Chains of Custody when submitting the Form 26R samples to Pace:

For ***liquid*** waste samples:

- TCL (gross)
- VOC's
- SVOC's
- TAL Metals
- PCB's
- Pesticides/Herbicides
- 26R Part d
- pH
- Ignitability
- Reactive sulfur
- Reactive cyanide

For **solid** samples:

- TCL (gross)
- VOC's
- SVOC's
- TAL Metals
- PCB's
- 26R Part d
- pH
- Ignitability
- Reactive sulfur
- Reactive cyanide
- TCLP

SMB

Sample Condition Upon Receipt

Pace Analytical

Client Name: URS Project # 30396842

Courier: [X] Fed Ex [ ] UPS [ ] USPS [ ] Client [ ] Commercial [ ] Pace Other _____

Tracking #: 7995 2612 6994

Optional
Proj. Due Date:
Proj. Name:

Custody Seal on Cooler/Box Present: [ ] yes [X] no Seals Intact: [ ] yes [ ] no

Packing Material: [X] Bubble Wrap [X] Bubble Bags [ ] None [ ] Other _____

Thermometer Used 3 (5) Type of Ice: (Wet) Blue None [X] Samples on ice, cooling process has begun

Cooler Temperature 0.2 1.9 Biological Tissue is Frozen: Yes No

Date and initials of person examining contents: RES 12/17/10

Temp should be above freezing to 6°C

Comments:

Chain of Custody Present:	[X] Yes	[ ] No	[ ] N/A	1.
Chain of Custody Filled Out:	[X] Yes	[ ] No	[ ] N/A	2.
Chain of Custody Relinquished:	[ ] Yes	[X] No	[ ] N/A	3.
Sampler Name & Signature on COC:	[X] Yes	[ ] No	[ ] N/A	4.
Samples Arrived within Hold Time:	[X] Yes	[ ] No	[ ] N/A	5.
Short Hold Time Analysis (<72hr):	[X] Yes	[ ] No	[ ] N/A	6. pH
Rush Turn Around Time Requested:	[X] Yes	[X] No	[ ] N/A	7. 3 days 12/17/10
Sufficient Volume:	[X] Yes	[ ] No	[ ] N/A	8.
Correct Containers Used:	[X] Yes	[ ] No	[ ] N/A	9.
-Pace Containers Used:	[X] Yes	[ ] No	[ ] N/A	
Containers Intact:	[X] Yes	[ ] No	[ ] N/A	10.
Filtered volume received for Dissolved tests	[ ] Yes	[ ] No	[X] N/A	11.
Sample Labels match COC:	[X] Yes	[ ] No	[ ] N/A	12.
-Includes date/time/ID/Analysis Matrix: WT				
All containers needing preservation have been checked.	[X] Yes	[ ] No	[ ] N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	[X] Yes	[ ] No	[ ] N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	[X] Yes	[ ] No		Initial when completed: RES Lot # of added preservative:
Samples checked for dechlorination:	[X] Yes	[ ] No	[ ] N/A	14.
Headspace in VOA Vials (>6mm):	[ ] Yes	[X] No	[ ] N/A	15.
Trip Blank Present:	[ ] Yes	[X] No	[ ] N/A	16.
Trip Blank Custody Seals Present	[ ] Yes	[ ] No	[X] N/A	
Pace Trip Blank Lot # (if purchased):				

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: _____ **Date:** 12/20/10

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

F-ALLC003-4 23Feb2010

Pace Analytical Services, In
1000 Riverbend Blvd. Suite F
St. Rose, LA 7008
(504) 469-033

Chains of Custody

Chain of [redacted]

Pace Analytical®

Workorder: 3038842 Workorder Name: KLG 39938634.00018 Owner Received Date: 12/17/2010 Results Requested By: 1/19/2011

Report To	Subcontract To
Timothy Reed Pace Analytical Services, Inc. 1638 Roseytown Road Greensburg, PA 15601 Phone (724)850-5600 Fax (999)999-8999	Pace Analytical New Orleans 1000 Riverbend Blvd Suite F St. Rose, LA 70087 Phone 1(504)469-0333

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Other	Unpreserved					TCL Herbs	TCLP Herbs	LAB USE ONLY
1	[redacted]WC803	PS	12/16/2010 13:15	3038842001	Solid	1						X	X	20848425 / 426
2	[redacted]WC861	PS	12/16/2010 14:47	3038842003	Water		1					X		427
3														
4														
5														

Transfers	Released By	Date/Time	Received By	Date/Time
1	[signature]	12/20 1445		
2			[signature]	12/21/10 1000
3				

Comments: TCLP Prepared by Pace PGH
TCLP Portions will be sent once extracted

Cooler Temperature on Receipt 2.6°C Custody Seal (Y) or N Received on Ice (Y) or N Samples Intact (Y) or N

Pace Analytical

Sample Cond [redacted]

1000 Riverbend. Blvd., Suite F
St. Rose, LA 70087

Courier: ☐ Pace Courier ☐ Hackbarth ☑ Fed X ☐ UPS ☐ DHL ☐ USPS ☐ Customer ☐ Other

Custody Seal on Cooler/Box Present: [see COC] **Custody Seals Intact:** ☑Yes ☐No

Therometer Used:	☑ Therm Fisher IR 1 ☐ Therm Fisher IR 2 ☐ Therm Fisher IR 4

Type of Ice: (Wet) Blue None Samples on ice: [see COC]

Cooler Temperature: [see COC] Temp should be above freezing to 6°C

Date and Initials of person examining contents: 12-22-10

Temp must be measured from Temperature blank when present

		Comments:
Temperature Blank Present"?	☐Yes ☑No ☐N/A	1
Chain of Custody Present:	☑Yes ☐No ☐N/A	2
Chain of Custody Complete:	☑Yes ☐No ☐N/A	3
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	4
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	5
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	6
Sufficient Volume:	☑Yes ☐No ☐N/A	7
Correct Containers Used:	☑Yes ☐No ☐N/A	8
Filtered vol. Rec. for Diss. tests	☐Yes ☑No ☐N/A	9
Sample Labels match COC:	☑Yes ☐No ☐N/A	10
All containers received within manafacture's precautionary and/or expiration dates.	☑Yes ☐No ☐N/A	11
All containers needing preservation have been checked (except VOA; coliform, & O&G).	☐Yes ☐No ☑N/A	12
All containers preservation checked found to be in compliance with EPA recommendation.	☐Yes ☐No ☑N/A	13 If No, was preservative added? ☐Yes ☐No If added record lot no.: HNO3 _____ H2SO4 _____
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14
Trip Blank Present:	☐Yes ☐No ☑N/A	16
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	17
Pace Trip Blank Lot # (if purchased): N/A		18

Client Notification/ Resolution:

Person Contacted: ________________ Date/Time: ________

Comments/ Resolution: ________________

ALLC003rev.06, 28Jul2010 - mod

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

LABORATORY REPORT

Client
Pace Analytical
1638 Roseytown Road
Greensburg, PA 15601

Order Number
1021125

Project Number
~~N/A~~ 3038842

Issued
Monday, January 03, 2011

Total Number of Pages
4 (excluding C.O.C. and cooler receipt form)

Approved By : RS Libras
QA Manager

1021125

NELAC Accreditation #E87688

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Sample Summary

Client: Pace Analytical
Order Number: 1021125

Laboratory ID	Client ID	Matrix	Sampling Date
1021125-01	3038842001	Solid	12/20/2010
1021125-02	3038842003	Liquid	12/20/2010

SUMMIT
ENVIRONMENTAL TECHNOLOGIES, INC.
Analytical Laboratories

Report Narrative

Client: Pace Analytical

Order Number: 1021125

Solid sample results are reported on a wet weight basis except as noted.
No problems were encountered during analysis of this order number, except as noted.

Data Qualifiers:
B = Analyte found in the method blank
J = Estimated concentration of analyte between MDL (LOD) and Reporting Limit (LOQ)
C = Analyte has been confirmed by another instrument or method
E = Analyte exceeds the upper limit of the calibration curve.
D = Sample or extract was analyzed at a higher dilution
X = User defined data qualifier.
S = Surrogate out of control limits
U = Undetected
a = Not Accredited by NELAC

ND = Non Detected at LOQ
DF = Dilution Factor

Limit Of Quantitation (LOQ) = Laboratory Reporting Limit (not adjusted for dilution factor)
Limit Of Detection (LOD) = Laboratory Detection Limit

Matrices:
A = Air
C = Cream
DW = Drinking Water
L = Liquid
O = Oil
SL = Sludge
SO = Soil
S = Solid
T = Tablet
TC = TCLP Extract
WW = Waste Water
W = Wipe

Estimated uncertainty values are available upon request.

Chain of Custody

Order ID: 1021125 COC
Subcontractor Project No.:
P.O. No: ASR-3038842

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
1638 Roseytown Road
Suites 2,3, & 4
Greensburg, PA 15601
Phone: (724) 850-5600
FAX: (724) 850-5601

Request Date: 12/20/10 Analysis Due Date: 1/7/2010
Shipped By: Fed Ex

Certification Required: PA Cert

Page 1 of 1

Pace Project No.: 3038842
Report/Invoice to: Tim Reed

	Pace Sample ID:	Matrix:	Collection Date:	Time:	Analysis Requested:	Analytical Method:	Detection Limits:	Units Requested:
1	3038842001	SL	12/20/10		Ethylene Glycol			
2	3038842003	WT	12/20/10		Ethylene Glycol			
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								

1021125-01-02

Special Requirements:

Subcontract Lab: Summit Environmental Technolgies, Inc.
Address: 3310 Win Street
Cuyahoga Falls, OH 44223
Phone: 330-253-8211

Analysis Authorized By: _____ (Pace Agent Name) (Title)
Acceptance of Terms By: _____ (Subcontract Lab Agent) (Title)

Relinquised By: _____ (Signature & Affiliation) 12/20 (Date) 1535 (Time)
Relinquised By: _____ (Signature & Affiliation) (Date) (Time)
Comments:

Received By: _____ (Signature & Affiliation) 12-21-10 (Date) 1140 (Time)
Received By: _____ (Signature & Affiliation) (Date) (Time)

ASR (C015-0 31July2007)

Summit Environmental Technologies, Inc.

Cooler Receipt Form

Order ID: 1021125 **COOLER**

Client: Pace Analytical Order Number: 1021125

Date Received: 12-21-10 Time Received: 1140

Number of Coolers/Boxes: 1 N/A

Shipper: FED EX UPS DHL Airborne US Postal Walk-in Pickup Other:

Packaging: Peanuts Bubble Wrap Paper Foam None Other:

Tape on cooler/box:	Y	N	N/A
Custody Seals intact	Y	N	N/A
C-O-C in plastic	Y	N	N/A
Ice ✓ Blue ice	present / absent / melted		N/A
Sample Temperature	2.8 °C		N/A
C-O-C filled out properly	Y	N	N/A
Samples in separate bags	Y	N	N/A
Sample containers intact*	Y	N	N/A

*If no, list broken sample(s):

Sample label(s) complete (ID, date, etc.)	Y	N	N/A
Label(s) agree with C-O-C	Y	N	N/A
Correct containers used	Y	N	N/A
Sufficient sample received	Y	N	N/A
Bubbles absent from 40 mL vials**	Y	N	N/A

** Samples with bubbles less than the size of a pea are acceptable.

Was client contacted about samples	Y	N
Will client send new samples	Y	N

Client contact:

Date/Time:

Logged in by:

Comments:

Rev. 6a

CABot Question 3 # 1 COC

as redacted

	A	B	C
1	**Pennsylvania Wastewater Generated in Completions and Production April 19, 2011 to May 12, 2011**		
2	Well Name	Gallons generated in Completions	Gallons generated in Production
3	[redacted]3H-NW	0	0
4	[redacted] #2H-NW	0	0
5	[redacted] #3H-SE	0	0
6	[redacted] #4H-NW	0	0
7	[redacted] #5H-SE	0	0
8	[redacted] H-SE	0	832
9	[redacted] H-NW	0	155
10	[redacted] #1H-SE	0	33,991
11	[redacted] #2H-NW	0	10,189
12	[redacted] #3H-NW	0	14,284
13	[redacted] #4H-NW	0	18,258
14	[redacted] #5H-SE	0	38,266
15	[redacted] #6H-SE	0	23,100
16	[redacted] #1H-SE	0	0
17	[redacted] #2V	0	0
18	[redacted] #3H-SE	0	0
19	[redacted] #4H-NW	0	0
20	[redacted] #5H-SE	0	0
21	[redacted] 1H-SE	0	1,201
22	[redacted] #1V	0	105
23	[redacted] #2V	0	143
24	[redacted] #4H-SE	0	71
25	[redacted] #5H-SE	0	0
26	[redacted] 6	28,308	0
27	[redacted] #7H-SE	0	0
28	[redacted] #2H-SE	0	0
29	[redacted] #3H-NW	0	0
30	[redacted] 1H-SE	0	10,991
31	[redacted] 3H-NW	0	6,947
32	[redacted] W. #1V	0	0
33	[redacted] W. #2V	0	1,273
34	[redacted] W. #3H-NW	0	1,697
35	[redacted] -NW	0	0
36	[redacted] -SE	0	0
37	[redacted]	0	0

COC EPA000100

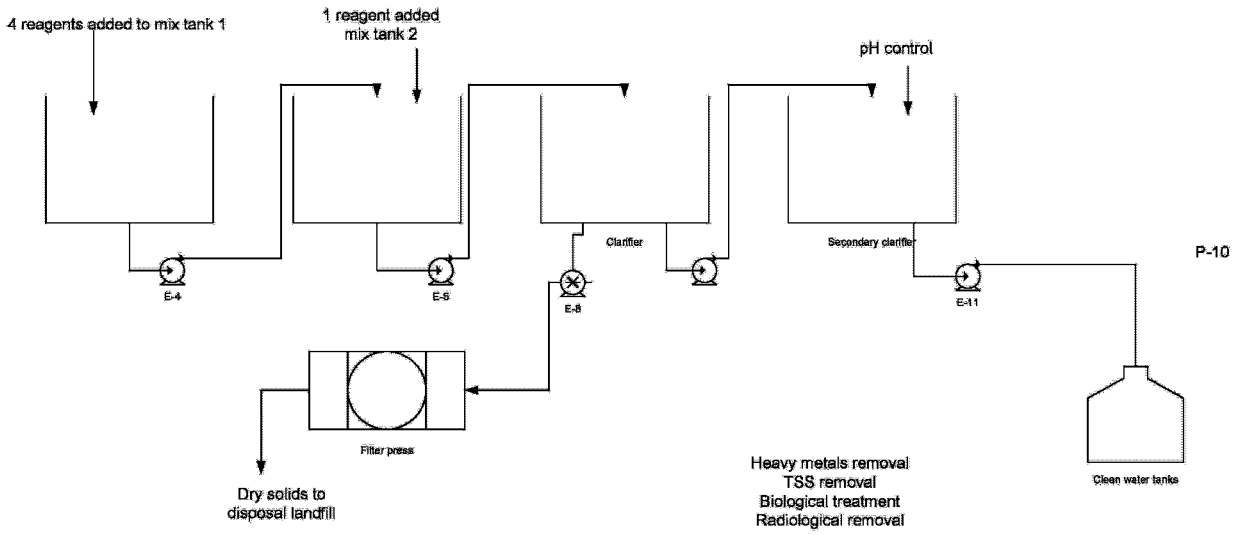
	A	B	C
1	**Pennsylvania Wastewater Generated in Completions and Production April 19, 2011 to May 12, 2011**		
2	Well Name	Gallons generated in Completions	Gallons generated in Production
38	[redacted]	0	0
39	[redacted]	0	1,344
40	[redacted]	0	1,592
41	[redacted]	0	16,229
42	[redacted]	0	8,917
43	ELK LAKE SCHOOL DISTRICT #1H-NW	0	743
44	ELK LAKE SCHOOL DISTRICT #2V	0	176
45	ELY #1H VERTICAL DD	0	0
46	[redacted]	0	0
47	[redacted]#4V	0	176
48	[redacted]#5H-NW	0	0
49	[redacted]#6H-SE	0	281
50	[redacted]#7H-SE	0	0
51	[redacted]	0	0
52	[redacted]	0	0
53	[redacted]	0	0
54	[redacted]	0	0
55	[redacted]	0	0
56	[redacted]	0	0
57	[redacted]R	0	0
58	[redacted]5H-NW	0	4,952
59	[redacted]H-NW	0	1,378
60	[redacted]W	0	0
61	[redacted]2V	0	0
62	[redacted]3H-NW	0	3,423
63	[redacted]4-SE	0	8,325
64	[redacted]5-SE	0	5,468
65	[redacted]	0	1,168
66	[redacted]#2H-SE	0	1,487
67	[redacted]#1H-SE	0	11,768
68	[redacted]#2V	0	3,784
69	[redacted]#1	0	0
70	[redacted]#2	0	0
71	[redacted]#1V	0	105
72	[redacted]	0	920

	A	B	C
1	Pennsylvania Wastewater Generated in Completions and Production April 19, 2011 to May 12, 2011		
2	Well Name	Gallons generated in Completions	Gallons generated in Production
73	[redacted]#2V	0	424
74	[redacted]#4H	0	567
75	[redacted] A&M #1H-SE	0	622
76	[redacted], A&M #2H-NW	0	0
77	[redacted], A&M #3H-NW	0	311
78	[redacted], A&M #4H-SE	0	0
79	[redacted] R. #2H-SE	0	0
80	[redacted] R. #3H-NW	0	0
81	[redacted] R. #4H-NW	0	0
82	[redacted] R. #5H-SE	0	0
83	[redacted] #1V	0	281
84	[redacted] #2H-SE	0	1,592
85	[redacted] #1V	0	1,201
86	[redacted] #5H-SE	0	1,487
87	[redacted] #6H-NW	0	777
88	[redacted] #1H-SE	0	0
89	[redacted] #2H-NW	0	1,344
90	[redacted] #1H-SE	0	1,873
91	[redacted] #2H-SE	0	1,865
92	[redacted] #3H-NW	0	353
93	[redacted] #4H-NW	0	2,100
94	[redacted] #1H-SE	0	0
95	[redacted] -SE	475,230	0
96	[redacted] -SE	342,300	0
97	[redacted] #2V	0	638
98	[redacted] #3H-SE	0	353
99	[redacted] #4H-NW	0	3,314
100	[redacted] #5H-SE	0	2,860
101	[redacted] #6H-NW	0	6,153
102	[redacted], A. #1V	0	0
103	[redacted], A. #2H-NW	0	0
104	[redacted] #1H-NW	0	0
105	[redacted] #2H-SE	0	0
106	[redacted]	0	0
107	[redacted]	0	34

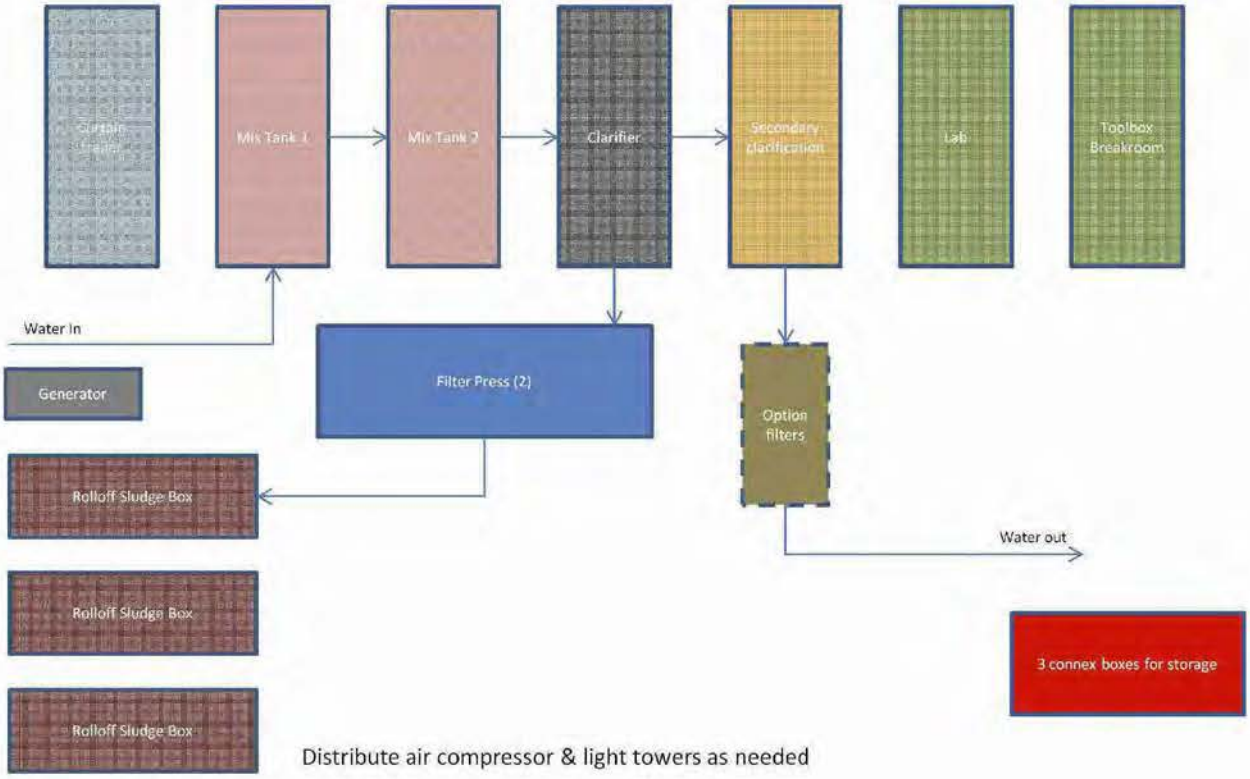
	A	B	C
1	**Pennsylvania Wastewater Generated in Completions and Production April 19, 2011 to May 12, 2011**		
2	Well Name	Gallons generated in Completions	Gallons generated in Production
108	[redacted]1H-SE	0	0
109	[redacted]3H-NW	0	0
110	[redacted]H-SE	0	9,488
111	[redacted]-NW	0	9,227
112	Post 1	0	0
113	Post 2	0	0
114	[redacted]E	0	1,487
115	[redacted]NW	0	3,856
116	[redacted]	0	1,592
117	[redacted]SE	0	3,368
118	[redacted]V	0	1,554
119	[redacted]H-NW	0	9,127
120	[redacted]H-SE	0	4,250
121	[redacted]H-NW	182,112	0
122	[redacted]H-SE	66,486	0
123	[redacted]H-SE	0	0
124	[redacted]V	0	0
125	[redacted]NW	204,456	0
126	[redacted]-SE	106,092	0
127	[redacted]H-NW	205,506	0
128	[redacted]V	0	353
129	[redacted]2H-NW	0	458
130	[redacted]V	0	2,264
131	[redacted]2H-NW	0	777
132	[redacted]4H-SE	0	4,103
133	[redacted]5H-NW	0	5,905
134	[redacted]H-SE	0	1,273
135	[redacted]H-NW	0	2,759
136	[redacted]H-SE	0	1,520
137	[redacted]V	0	391
138	[redacted]	0	0
139	[redacted]	0	0
140	[redacted]K. #2H-NW	289,338	9,072
141	[redacted]E #3H-NW	0	0
142	[redacted]. #4H	0	0

	A	B	C
1	Pennsylvania Wastewater Generated in Completions and Production April 19, 2011 to May 12, 2011		
2	Well Nam	Gallons generated in Completions	Gallons generated in Production
143	K. #5H	0	0
14		0	0
14		0	105
14		0	0
14		0	1,840
14		0	71
14	E	0	353
15		0	0
15		0	848
15	#1H-SE	0	15,813
15	H-NW	0	19,261
15	2H-NW	0	0
15	7H-SE	0	0
156		0	0

Cabot Process Diagram



System Layout OCT 010



Distribute air compressor & light towers as needed

CONTROL & DISPOSAL (C&D) PLAN

PENNSYLVANIA

February 2011

Cabot Oil & Gas Corporation

Susquehanna District
8279 State Route 29
Montrose, PA 18801
(570) 278-3518

Prepared by:

URS

URS Corporation
501 Holiday Drive, Suite 300
Pittsburgh, PA 15220-2749
(412) 503-4700

TABLE OF CONTENTS

1.0 CONTACT INFORMATION, PURPOSE, AND DESCRIPTION OF OPERATIONS

1.1 Contact Information

Mr. Phillip Hill
District Superintendent
Cabot Oil & Gas Corporation (Cabot)
8279 State Route 29
Montrose, PA 18801
(570) 278-8600

A list of Cabot's Emergency Contacts and External Notifications are provided in **Appendix E and F**, respectively, of the Preparedness, Prevention, and Contingency (PPC) Plan.

1.2 Purpose

Pursuant to 25 PA Code §78.55(a), prior to the generation of waste, the well operator shall prepare and implement a plan for the control and disposal of fluids, residual waste and drill cuttings including tophole water, brines, drilling fluids, additives, drilling muds, stimulation fluids, well servicing fluids, oil, production fluids and drill cuttings from drilling, alteration, production, plugging or other activity associated with oil and gas wells.

This Control and Disposal Plan (C&D Plan) is intended to apply to all Pennsylvania oil and/or gas wells drilled, completed, altered, produced and/or plugged by Cabot.

The C&D Plan will be available at the well site during site development, gas well drilling, and completions (fracing) operations. In addition, a copy of the current Plan is stored in production personnel vehicles during routine production operations.

1.3 Primary Location

Cabot is completing exploration activities in the Northeast region of Pennsylvania. The Pennsylvania Department of Environmental Protection (PADEP) Northcentral Regional Office is assigned to the Oil and Gas operations in northeastern Pennsylvania:

PADEP – Northcentral Regional Office
208 West Third Street, Suite 101
Williamsport, PA 17701-6448
Main/Emergency Reporting: (570) 327-3636 (24-hour)
Fax: (570) 327-3565 or (570) 327-3420

The PADEP regional office for Susquehanna County is:

PADEP - Northeast Regional Office
2 Public Square
Wilkes-Barre, PA 18711-0790
Phone: (570) 826-2511
Fax: (570) 830-3051
Emergency Reporting: (570) 826-2511

1.4 Type

Wells are natural gas wells for primary production. A description of operations is provided in Section 1.0 of the PPC Plan.

1.5 Drilling Method

Wells are to be drilled using either air rotary or mud rotary methods for vertical wells and air rotary or mud rotary for the vertical section of horizontal wells with fluid drilling in the lateral section of the horizontal wells. A pressure barrier policy identifying the pressure barriers to be used during well drilling and completion operations is summarized in Section 3 of the PPC Plan (§ 78.55(b)).

2.0 UTILIZED, GENERATED, OR DISPOSED SUBSTANCES

Cabot requires their contractors to certify that they have the necessary PPC and Spill Prevention, Control, and Countermeasures (SPCC) Plans in place before work begins. The contractor SPCC Plans address onsite oil capacities greater than 1,320 gallons and are developed to comply with Environmental Protection Agency's regulations (40 CFR 112). Cabot's contractors utilize materials during their operations (site development, drilling, fracing, and completion). A summary of these typical materials are outlined below for each phase of well development.

2.1 List of Chemicals, Additives, and Wastes

A listing of typical chemicals, additives, and wastes is provided in Section 1.3 of the PPC Plan. Product MSDS for site development, gas well drilling, and fracing are maintained on-site in the Contractor's on-site office and/or the Cabot Company Man's office. The master list of MSDS is provided in **Attachment 1** of the PPC Plan. The master MSDS files are maintained at Cabot's local office in Montrose, PA.

2.1.1 Site Development

Oils: During the site development phase of the well installation or pipeline right-of-way (ROW) installation, oils are utilized by the installation equipment. Typical oils onsite include: diesel fuel, hydraulic oil, and motor oils. Used oils are temporarily stored onsite before being shipped offsite for disposal/reuse. Diesel fuel is stored in an aboveground storage tank (AST), commonly 8,000 gallons in capacity. Used oil is stored in an AST, commonly 300 gallons in capacity. Hydraulic oils, motor oils, and greases are maintained in 55-gallon drums.

2.1.2 Drilling

Tophole Water: Very little tophole water is anticipated to be generated during well drilling and installation of vertical well surface casings to depths of approximately 1,500 feet below ground surface (BGS). No water is anticipated to be generated during drilling and casing installation of the 7-inch casing string at depths beyond 1,500 feet BGS.

Drill Cuttings: The volume of drill cuttings will be determined on a per well basis (i.e., depth, diameter, etc.). However, the vertical wells will be drilled utilizing air rotary or mud rotary methods with foam and/or fluid as necessary. The vertical section of horizontal wells will be air rotary or mud rotary drilled with the lateral section incorporating fluid drilling. The drill cuttings are stored in the site's lined containment pit(s) on the well pad.

Oils: During the drilling phase of the well installation, oils are utilized by the installation equipment. Typical oils onsite include: diesel fuel, hydraulic oil, and motor oils. Used oils are temporarily stored onsite before being shipped offsite for disposal/reuse. Diesel fuel is stored in an AST, commonly 8,000 gallons in capacity. Used oil is stored in an AST, commonly 300 gallons in capacity. Hydraulic oils, motor oils, and greases are maintained in 55-gallon drums.

2.1.3 Stimulation

Frac Fluids: Approximately 703,000 gallons of stimulation fluids (tophole water and approved withdrawals from the Susquehanna River Basin Commission and PADEP) will be utilized to stimulate vertically installed wells and approximately 2,700,000 gallons of stimulation fluids (tophole water and approved withdrawals from the Susquehanna River Basin Commission and PADEP) will be utilized to stimulate horizontally installed laterals.

Sediments in Frac Fluid: The volume of sediments in frac fluids will be determined on a per well basis. Typical frac fluids will include approximately 45,000 pounds of 80/100 mesh sand and 800,000 pounds of 40/70 mesh sand for vertical wells and approximately 160,000 pounds of 80/100 mesh sand and 3,000,000 pounds of 40/70 mesh sand for horizontal laterals.

Stimulation Fluid Additives: Frac fluid is anticipated to contain several additives including, but not necessarily limited to sand, friction reducer, frac gel, clay control, hydrochloric acid, and surfactant. Available Material Safety Data Sheets (MSDS) for materials likely to be used are presented in **Attachment 1** of the PPC Plan.

Oils: During the fracing phase of the well installation, oils are utilized by the installation equipment. Typical oils onsite include: diesel fuel, hydraulic oil, and motor oils. Used oils are temporarily stored onsite before being shipped offsite for disposal/reuse. Diesel fuel is stored in an aboveground storage tank (AST), commonly 8,000 gallons in capacity. Used oil is stored in an AST, commonly 300 gallons in capacity. Hydraulic oils, motor oils, and greases are maintained in 55-gallon drums.

2.1.4 Operation

Brine/Oil: Approximately 200 barrels of production fluids are anticipated to be generated per well per month of operation. Produced fluids are typically stored in two (2) 100-barrel capacity tanks per well. The produced fluids tanks are equipped with an earthen diked berm for secondary containment.

2.1.5 Release Clean-up and Waste Disposal

In the event a spill or leak of regulated materials [e.g., hydrochloric acid (HCL) or other hazardous material] used on-site results in an unauthorized release; all material and waste recovered will be containerized, characterized, labeled and sent off-site for treatment or disposal at an approved treatment, storage, and disposal (TSD) facility. Depending on the material, size, and location of the incident, a qualified individual under the direction of a Pennsylvania-licensed Professional Geologist conducts a site investigation to determine the horizontal and vertical extent of media (i.e., soil, groundwater, and surface water) affected. The impacted area is evaluated to determine appropriate remedial options and the most appropriate option is implemented. Upon completion of remedial activities, confirmation samples are collected to ensure conditions are protective of human health and the environment. Any impacted media removed from the site is taken to an approved TSD facility.

3.0 CONTAINMENT AND TRANSPORTATION

3.1 Containment Methods

Pits: Containment pits will be designed and constructed in accordance with PA Code Title 25, Chapter 78.56 and 78.62, including 2 feet of freeboard and a 30-mil synthetic flexible liner. Pit capacity will be dependent on a per well and location basis; however, a typical pit will fall into one of two size categories. Pits will be either 75'x24'x15' deep (capacity of approximately 4,500 barrels of drilling cuttings and fluids) or 100'x50'x15' deep (13,400 barrels capacity).

Tank Batteries / Single Tanks: Tank batteries or single storage tanks will be designed and constructed with a secondary containment structure in accordance with PA Code Title 25, Chapter 78.64, with a capacity capable of containing the volume of the largest single tank and a precipitation allowance. Tanks will be made of steel and have 100-barrel capacity.

Temporary Storage Tanks: Temporary storage tanks (frac tanks) will be utilized for the storage of well stimulation fluids. Tanks will consist of steel and have up to a 500 barrel capacity.

Oil Storage: Oil handling and storage activities (e.g., diesel fuel) will be conducted on the well pad or pipeline ROW. In addition, contractors are required to provide secondary containment for all fuel and oil drums (>55 gallon capacity) stored on site.

Chemical Storage: Chemical handling and storage activities (e.g., hydraulic fracturing gel injection) will be conducted on the well pad, where feasible. In addition, contractors are required to provide secondary containment where chemical handling and storage activities take place, excluding flow-through piping. Contractors are required to provide additional secondary containment for any chemical handling activity that must be done outside the well pad.

In the event a containment pit or tank containment structure should fail, the following corrective actions will be taken, in accordance with PA Code Title 25, Chapter 78.56:

- Prevent the released substance from reaching the waters of the Commonwealth.
- Recover or remove the substance which was released.
- Dispose of the substance in accordance with applicable regulations or as approved by the PADEP.

The use of construction equipment to create emergency containment berms down gradient of the containment breach/spill may be required in addition to the use of commonly available spill absorbent materials. It is likely the spilled material will infiltrate the soils immediately adjacent to the containment pit/structure and not migrate to surface waters. In that event, the soil media containing the spill may be excavated, removed and disposed in accordance with applicable regulations or as approved by the Department.

In the event of the release of polluting materials, consult the Cabot's County Specific PPC Plan.

3.2 Container Inspection / Protection from External Factors

Several protections will be employed to protect the containment structures from external factors. These include:

- Twenty-four hour staffing during well drilling activities.
- The use of locked valves, or those requiring a wrench to turn on gas pipelines, as opposed to handled valves.
- Require contractor to provide secondary containment for all fuel, oil, and chemical containers (>55 gallon capacity) stored on site and where chemical handling and storage activities take place, excluding flow-through piping. Contractors are also required to provide secondary containment for any chemical handling activity that must be done outside the well pad.
- Frequent containment and site inspections to include:
  - The tanks and storage pits will be inspected regularly by the drilling/completion foreman (or his designated representative) during well drilling and stimulation activities.
  - During production, the well heads and storage tanks will be inspected periodically.

3.3 Preventive Maintenance

Spare parts for well and support facility equipment are readily available from local and national vendors. New and existing wells will be inspected daily by well tenders during installation and stimulation activities. During production, the wells will be inspected regularly during brine collection visits. Collection/gathering lines will be inspected a minimum of two (2) times per year.

3.4 Personnel Training Program

Once a calendar year, a formal training session will be held with all production and maintenance supervisors and staff covering the Plan, operation and maintenance of equipment, applicable laws, rules, and regulations, responsibilities in the notification process in the event of a release, and all changes pertaining to the Plan. All new personnel will be trained on the contents of this Plan prior to the initiation of any activity covered by the Plan.

4.0 RECYCLING & WASTE DISPOSAL METHODS

4.1 Wastes and Generated Materials

Drilling:
Fluids Generated During Drilling
Drill Cuttings
Used Oils

Stimulation:
Stimulation Fluid
Stimulation Fluid Additives (see **Attachment 1** of the PPC Plan for a list of MSDS)
Sediments in Frac Liquid

Operation:
Operation/Production Fluids
Well Servicing Fluids

Clean-up Materials and Waste:
Spills/Leaks

4.2 Waste and Generated Materials Management

Drilling activities will produce fluids (tophole water) as well as used drilling mud and drill cuttings. These materials may be collected in a lined, drilling containment pit at each well pad. The pit will be designed and constructed in accordance with PA Code Title 25, Chapter 78.56 and 78.62, including 2 feet of freeboard and a 30-mil synthetic flexible liner. Cabot may employ a "closed-loop" drilling system to manage the drilling mud and cuttings. The closed loop system uses mechanical (shaking and screens) and/or chemical means to separate liquids from solids. In instances where a closed-loop system is employed, the reserve pit may be eliminated and solid cuttings held in a steel container on site until disposed at an approved waste facility. During drilling operations the drilling fluid (as appropriate) will be re-circulated, cleaned, and re-used from well site to well site as long as practical before disposal.

After drilling is complete, free liquids will be removed from the pit(s) or steel container(s) for reuse or transportation and off-site disposal. Sediments remaining in the pit and the drilling cuttings will be solidified then either encapsulated, within the 30-mil liner for in-place disposal in accordance with the terms and conditions of PA Code Title 25, Chapter 78.62, or disposed at an approved waste facility. Well completion will be performed by using water from frac tanks stored on site. After completion, flowback water will be collected in frac tanks and subsequently hauled via tank truck to an on-site treatment facility for treatment and recycling as stimulation fluid, or to a permitted brine disposal well or PADEP-approved disposal facility. Recycling and/or disposal of production fluids will be on-going over the lifetime of the well.

Recycling or disposal of flowback fluids will be a one-time action. Typically, only 10%-20% of the stimulation fluids are recovered following well stimulation. Therefore, it is anticipated that approximately 140,000 gallons of flowback fluids will be generated per vertical well installation and approximately 318,000 gallons of flowback fluids will be generated per horizontal lateral installation.

If a spill or leak of regulated materials (e.g., HCL) used on-site results in an unauthorized release, all material and waste will be recovered and containerized, characterized, labeled and shipped off-site for disposal at an -approved facility.

The disposal of any waste material generated on site by contractors (e.g., used oil from equipment) is handled by those contractors, per appropriate Pennsylvania requirements.

4.3 Volume of Accumulated Materials Prior to Recycling or Disposal

Cabot anticipates approximately 140,000 gallons of recovered stimulation fluids are to be stored prior to recycling or disposal for each vertically installed well and approximately 318,000 gallons of recovered stimulation fluids are to be stored prior to recycling or disposal for each horizontally installed lateral.

Up to 200 barrels of production fluids per well will be stored on-site prior to removal for off-site recycling or disposal.

4.4 Fluid Disposal Locations

Cabot will dispose of stimulation and production fluids at permitted, a PADEP-approved disposal facility. Cabot has identified the following PADEP-approved disposal facilities that are permitted to handle Cabot's disposal fluids:

Eureka Resources (a pretreatment facility prior to Williamsport Sanitary Authority)
419 2nd Street
Williamsport, PA 17701
Contact: Tim Butter
Phone: (570) 323-2535

Williamsport Sanitary Authority
253 West Fourth Street
Williamsport, PA 17701
Phone: (570) 323-6148

Johnstown Regional Sewage Treatment Plant
241 Asphalt Road
Johnstown, PA 15906
Contact: Jeff Mullian
Phone: (814) 535-3805

Envirite of PA
730 Vogelsong Road
York, PA 17404
Contact: Mandy Musser
Phone: (717) 846-1900 ext. 213

Sunbury Generation
Mailing Address:
P.O. Box 517
Shamokin Dam, PA 17876
Physical Address:
Old Susquehanna Trail
Shamokin Dam, PA 17876
Contact: Norman Zellers
Phone: (570) 884-1250

Armstrong Environmental
205 Greenfield Rd.
Lancaster, PA 17601
Contact: Andrew Casey
Phone: (717) 393-2770

Waste Recovery Solutions
343 King St.
Myerstown, PA 17067
Contact: Jimmy Fulk
Phone: (717) 866-9955

4.5 Disposal and Recycling Frequency

Approximately 140,000 gallons of recovered stimulations fluids are anticipated to be hauled in a one-time action for recycling or disposal for each completed vertically installed well and approximately 318,000 gallons of recovered stimulation fluids are anticipated to be hauled in a one-time action for recycling or disposal for each horizontally installed lateral. Trucks are anticipated to haul approximately 70-130 barrels per load and therefore approximately 48 loads will be transported for vertical wells and approximately 108 loads will be transported for horizontal laterals.

Approximately 200 barrels of production fluids per well are anticipated to be hauled for recycling or disposal every other month.

4.6 Solids Disposal Locations

Cabot will dispose of solids (e.g., construction debris and spill cleanup material) at a PADEP-approved disposal facility. Cabot has identified the following PADEP-approved disposal facilities that are permitted to handle Cabot's disposal solids:

Keystone Sanitary Landfill
249 Dunham Drive
Dunmore, PA 18512
Phone: (570) 343-5782

Commonwealth Environmental Systems Landfill
99 Commonwealth Road
Hegins, PA 17938
Phone: (570) 695-3590

Wayne Township Landfill
264 Landfill Lane
McElhattan, PA 17748
Phone: (570) 769-6977

Laurel Highlands Landfill
260 Laurel Ridge Road
Johnstown, PA 15909
Phone: (814) 749-9065

Additionally, the following out of state landfills have been identified and allowed by the responsible regulatory authority to accept solid waste materials generated as part of Cabot's drilling operations:

Tunnel Hill Reclamation Landfill
2500 Township Rd. 205, Rt. 2
New Lexington, OH 43764
Phone: (740) 342-1180

Seneca Meadows Landfill
1786 Salcman Road
Waterloo, NY 13165
Phone: (315) 539-5624

C&D Hakes Landfill
4376 Manning Ridge Road
Painted Post, NY 14870
Phone: (607) 937-6044

4.7 Transportation of Wastes

Waste will be collected and transported in a manner that does not cause a nuisance or a hazard to public health, safety, welfare or environment. The following transporters may be retained to haul fluids/materials for disposal:

- Diaz Stone and Pallet, 7686 State Route 167, Kingsley, PA 18826
- Somerset Regional Water, 888 Stoystown Road, Somerset, PA 15501
- Barber & Deline, LLC, 995 State Route HA, Tully, NY 13159
- Key Energy Services, Rt. 5 Box 46D, Buckhannon, WV 26201
- GDS Corp., 2399 Virginia Avenue, Culloden, WV 25510
- US Environmental, Inc., 409 Boot Rd, Downingtown, PA 19335
- Safety Kleen, 600 Stewart Road, Hanover Industrial Estates, Hanover Township, PA 18706

Accident Prevention and Contingency Plan

An accident prevention and contingency plan to minimize and abate an unauthorized discharge of waste will be at each location.

Emergencies

In the event of an unauthorized discharge or release of waste during transportation, the PADEP will be immediately contacted by telephone. Further, the transporter will immediately act to clean up the waste and take action to prevent impacts to public health, safety, welfare, and the environment.

Vehicle Signs

Transportation vehicles will bear appropriate Pennsylvania and US Department of Transportation signage.

Record Keeping and Reporting

Waste transporters will keep daily records within the cab of the transportation vehicle. Along with typical waste manifesting requirements, the records will include:

Type of waste

Weight/volume of waste

Name, address and telephone number of generator, transporter and disposal facility

Records of any unauthorized release or discharge and response actions

These records will be available to the PADEP upon request and maintained for at least five years.

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TABLE 1

Discharges and Releases
Pennsylvania Operations
April 2006 to May 2011

DATE OF INCIDENT	County & State	Facility (Well Name)	Material Released	Estimated Volume Released	Media Impacted
3/18/11	Susquehanna County, PA	[redacted] 1H 5H	Lignite and/or Unused Drilling Mud	Unknown	Soil
2/7/11	Susquehanna County, PA	[redacted] 1H	Production Fluid	6.5 bbls	Soil
10/29/10	Susquehanna County, PA	[redacted] 6H	Drilling Mud	Unknown	Soil
9/26/10	Susquehanna County, PA	[redacted] 2H/3H (Leased Road)	Diesel Fuel	5 Gallons	Soil
9/8/10	Susquehanna County, PA	[redacted] 1H/3H	Black Water	Unknown	Soil
3/21/10	Susquehanna County, PA	[redacted] 2H/4H	Black Water	Unknown	Soil, Groundwater, Surface Water
3/10/10	Susquehanna County, PA	[redacted] 3H	Drill Cuttings/Drilling Mud	Unknown	Soil
2/3/10	Susquehanna County, PA	[redacted] H/3H	Drill Cuttings/Drilling Mud	Unknown	Soil, Groundwater, Surface Water
1/11/10	Susquehanna County, PA	[redacted] H	Brine Fluid	252 GAL	Soil
9/22/09	Susquehanna County, PA	[redacted] H	Hydrofracturing Fluid	420 GAL	Soil and Surface Water
9/16/09	Susquehanna County, PA	[redacted] H	Hydrofracturing Fluid	1,050 - 2,100 GAL	Soil and Surface Water
9/16/09	Susquehanna County, PA	[redacted] H	Hydrofracturing Fluid	3,880 GAL	Soil and Surface Water
8/27/09	Susquehanna County, PA	[redacted] 2H	Drilling Mud	1,000 GAL	Soil
6/16/09	Susquehanna County, PA	[redacted] H	Slick Water/Hydrofracturing Fluid	500 - 1,000 GAL	Soil
5/8/09	Susquehanna County, PA	[redacted] V	Drilling Mud	630 - 1,050 GAL	Soil and Surface Water
2/19/09	Susquehanna County, PA	[redacted] V	Drilling Mud	5,040 - 8,950 GAL	Soil
9/19/08	Susquehanna County, PA	[redacted] 1H/2H	Drill Cuttings/Drilling Mud	Unknown	Soil, Groundwater, Surface water
8/20/08	Susquehanna County, PA	[redacted]	Hydrofracturing Fluid	Unknown	Soil
6/3/08	Susquehanna County, PA	[redacted] H	Diesel Fuel	800 - 900 Gallons	Soil and Surface Water

TABLE 2

Potential Discharges and Releases
Pennsylvania Operations
April 2006 to May 2011

DATE OF INCIDENT	County & State	Facility (Well Name)	Material Released	Estimated Volume Released	Media Impacted
11/18/09	Susquehanna County, PA	[redacted] 2H	Drilling Mud	< 2 GAL	Soil
11/4/09	Susquehanna County, PA	[redacted] 4H	Sewage	15 GAL	Soil
9/3/09	Susquehanna County, PA	[redacted] 7H	Diesel Fuel	2 GAL	Soil
8/20/09	Susquehanna County, PA	[redacted] 1	Drilling Mud	1,050 GAL	Soil
8/19/09	Susquehanna County, PA	[redacted] 9V	Diesel Fuel	60 - 80 GAL	Soil
7/10/09	Susquehanna County, PA	[redacted] 5H	Diesel Fuel	Unknown	Soil
7/7/09	Susquehanna County, PA	[redacted] 1V	Drilling Mud	Unknown	Soil
5/31/09	Susquehanna County, PA	[redacted] 8H	Hydraulic Fluid	600 - 800 GAL	Soil
4/8/09	Susquehanna County, PA	[redacted]	Drilling Mud	42 - 84 GAL	Soil
3/7/09	Susquehanna County, PA	[redacted]	Drilling Mud	1,260 GAL	Soil
2/24/09	Susquehanna County, PA	[redacted] 0	Drilling Mud	420 GAL	Soil
2/20/09	Susquehanna County, PA	[redacted]	Diesel Fuel	5 – 10 GAL	Soil
2/6/09	Susquehanna County, PA	[redacted] 1V	Drilling Mud	1,050 GAL	Soil
1/30/09	Susquehanna County, PA	[redacted] 3	Diesel Fuel	75 GAL	Soil